Clinical Lecture
ON A
CASE OF HAMMERMAN'S CRAMP.

By G. V. POORE, M.D., F.R.C.P.,
PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

GENTLEMEN,—The case which I wish to bring to your notice to-day is one belonging to the class of "professional ailments" in which the constant repetition of the same movement begets an inability to perform that movement—a movement which often constitutes the profession of the sufferer, and is his sole source of income. These troubles are very serious for the patient, and, once established, they prove a source of mental anxiety and worry which can hardly be exceeded. On this account they are deserving of a very careful study, albeit that we know nothing for certain of their pathology, because these troubles are never fatal. The commonest of this class of diseases is "writer's cramp," of which I have seen about two hundred cases. Failure of professional movements other than writing is infinitely rare, but I have had occasion to see pianists who cannot play the piano; violinists who have lost the power to manipulate the strings with the left hand, or hold the bow in the right hand; a violoncello player who had lost the power to "make the nut" with the phalangeal joint of the left thumb; a compositor who could no longer hold the "stick" in his left hand; a tailor who could not sew; a pickle-jar-tyer who had lost the power of grasping the top of the jar with his left hand; a watchmaker who could not hold his watchmaker's lens in his eye; a packing-case-maker who could not use his saw; a bricklayer who could not use the trowel; and lastly a nailmaker (our patient of to-day) who cannot wield his hammer.

Other observers have described similar affections in telegraphists (I have never seen a case of telegraphist's cramp), ballet dancers who perform the "pas des pointes" on the tips of their toes, milkers, and fencing masters; and Professor Dieulafoy once told me that he had seen a cellarman from Rheims who had lost the power of giving a slight rotary movement to a champagne bottle, a movement which he was called upon to exercise all day and every day.

The investigation of these cases requires great care. Search must be made methodically and diligently for peripheral evidence of mischief, and we must bear in mind that no two cases are alike in all respects, and that since no two persons probably perform the same professional act in precisely the same way, so the mode of break-down will be found to differ immensely.

Careful examination of these cases has shown me that the break-down is generally most evident in those muscles which are subjected to prolonged strain rather than in those in which the periods of contraction and relaxation are more equally divided. Thus in writer's cramp it is the muscles of pen-prehension rather than those of pen-movement which are liable to fail. In the comparatively few cases of pianist's cramp which I have seen the extensors of the wrist and the near phalanges have been at fault. In the packing-case maker who could not wield his saw the chief trouble seemed to be in the supra-spinatus muscle, which during the act of sawing is subjected to prolonged strain. "Dancer's cramps" would probably be unknown if rhythmical movements, such as constitute dancing proper, alone were executed. It occurs only in those who abandon the rhythm which is the very essence of dancing for the performance of an acrobatic "tour de force."

The following history of our patient is summarised from that very excellent record which has been made by Mr. L. Barnett, house-physician.

J. M——, aged twenty-five, nailmaker, admitted Feb. 2nd, 1886. He is a piece worker—i.e., the more nails he can make the more money he will earn. He has worked from 7 A.M. to 7 P.M., with about forty minutes interval for meals. He has worked in a hot place in-doors, and has been in the habit of taking three or four pints of beer per diem with occasional spirits. There is nothing in the family history of definite import; but the death of his parents at fifty-four and fifty, and the loss of eleven brothers and sisters (out of thirteen) in infancy, make it probable that our patient's "constitution" is not very robust. His work consists in forging nails with a moderately light hammer. The iron is seized with pincers in the left hand, placed in position, and then forged into shape by a rapid succession of blows dealt by the hammer in the right hand. The onset of his trouble was almost sudden. He states that on Monday, June 8th, 1885, after he had been at work for about two hours, he was seized with an inability to direct the blows with his right hand. The trouble increased during the ensuing three hours, when, in consequence of the intense feeling of fatigue, he was obliged to "knock off work" for the day. On June 9th he managed by dint of holding the elbow close to the side to get through his day's work. On June 10th, 11th, 12th, and 13th he worked as well as ever. On the following Monday (June 15th) his trouble returned, but not to the same extent, and he got through his week's work fairly well by holding his elbow close to the side. After this the feeling of loss of aim in the arm recurred every Monday, and gradually wore off during the week, but the period it took to wear off got greater each time. By September the constant pressure of the elbow against the side produced soreness, and when attempts were made to keep the arm against the side the limb jerked, so that further work became impossible, and on Sept. 4th he had to leave it off. The patient states that after this everything he did with his right arm was done clumsily. He was then admitted into the Royal Free Hospital under Dr. Harrington Sainsbury, by whose kindness I first was enabled to see him.

Leaving the Royal Free Hospital, he next went to St. Bartholomew's, and from the latter institution he came here. On admission the "present state" was taken with great care and minuteness by Mr. Barnett. On the chest are a few small scars, the result of burns from sparks; otherwise the skin is normal. The circulatory, respiratory, digestive, and genito-urinary systems present no abnormalities of any kind. The temperature during his stay in hospital was always normal, but the pulse, when recorded, was found to be rather infrequent, being 62 on one occasion and 56 on another.

As regards the nervous system, it is noted that the intelligence was good, that there was no headache, and that the special senses were normal. The third, fourth, fifth, and sixth cranial nerves were apparently normal. The right naso-labial fold was rather less marked than the left; the mouth dropped a little on the right side when at rest and moved a little less vigorously than the left side. The tongue is slightly tremulous when protruded, and the median furrow deviates very slightly to the right side. The right upper limb, if carefully observed, will be noted to be seldom or never quite still. When sitting up with the arms hanging by the side the right arm is the seat of constant slight movements,—elevation, and adduction of the humerus, and flexion of the elbow. When an attempt is made at voluntary movement, the spasmodic action of the muscles of the upper limb is increased. The arm is held fixed to the side, the wrist is extended, the hand supinated and closed. The spasmodic action is seen to extend to the deltoid, trapezius, and pectoral muscles. The right sterno-mastoid is also slightly affected. When an attempt is made to use the hammer, the spasm reaches its maximum, and affects the right arm and shoulder to an extent which makes analysis impossible. It is evident that some of the muscles attached to the scapula are in an abnormal condition. I have followed my invariable plan and have carefully outlined both scapulæ with a blue pencil. By this means we see that the inferior angle of the right scapula is at a higher level than the left, that the distance between the mid-vertebral line and the base of the scapula is 5 in. on the right side and 4¾ in. on the left. The spinal border of the right scapula is somewhat tilted, and stands away from the surface of the back. The mass of the rhomboid muscles is very distinctly larger on the right side than the left. Looking to the lower axillary region, it is evident that the mass of the serratus magnus muscle is distinctly less evident on the right side than on the left. There is nothing wrong with the lower limbs, except that the plantar reflex is more marked on the right side than the left. Sensation is everywhere normal. The muscles were tested electrically. When I first saw this patient at the Royal Free Hospital, with Dr. Sainsbury, the irritability of the right serratus magnus to both forms of

current was distinctly diminished. Now, however, the difference in irritability of the two serrati is scarcely noticeable. The patient is free from pain. After attempts at voluntary use of the arm there is a sense of fatigue and some aching, especially beneath the prominent rhomboid muscles on the right side, but beyond this his condition causes no suffering. *None of the nerve-trunks are in the least tender.* It is very evident that the spasm is not now special to the performance of his professional act of hammering. When he is asked to write he picks up the pen with his left hand and then transfers it to the right, and his attempt to sign his name is interrupted by repeated slight shocks of spasm, and the resulting signature bears evidence of the jerking of the hand. No treatment has been of any service to him. He has previously been in two hospitals without benefit. In this hospital he has had electrical treatment, and in addition he took one-sixteenth of a grain of extract of physostigma from Feb. 6th to the 15th, and twenty minims of paraldehyde three times daily from Feb. 15th to the 21st. He is no better.

There are some points about this patient to which I desire to direct your attention, because they seem to me to place his case in a category different from some of the other professional ailments to which I have alluded. First, as to the mode of onset; it is to be noticed that it was comparatively sudden, and the patient fixes the date absolutely, and he states that before June 8th, 1885, he had no trouble at all, but since then he has never worked satisfactorily. In most other "professional ailments" the onset is gradual, the loss of function increases by scarcely perceptible degrees, and for a patient to be able to fix the exact day of onset is infinitely rare. I took occasion to tell you in my preliminary remarks that these professional ailments most commonly affect movements which necessitate, as in writing, a prolonged contraction of muscles. Now, in hammering it is difficult to say where (if anywhere) this prolonged contraction occurs. It would be most likely to occur in some of the muscles which steady the shoulder, and the permanent slight displacement of the right scapula in the case we are considering rather favours such an idea, but I am unable to say anything more definite.

The act of hammering is probably less automatic than many other acts of a similar kind. The action of the right hand depends to a certain extent upon that of the left, which places the metal in position for being struck. The action of the left hand in selecting and placing in position the nails to be forged is far from being a mere monotonous repetition of the same act, and hence the position of the nail when receiving the blows from the hammer must be to some extent uncertain. Hence it follows that each blow with the hammer involves the taking aim and the exercise of no inconsiderable amount of judgment. The act is as much mental as it is automatic, and both arms and the eyes have to act in harmony for its accomplishment. It seems to me such an act as would be likely to produce a considerable amount of mental worry, which would be redoubled on the first appearance of any failure of accuracy. The repetitions of the act were very numerous, and during the eleven hours of work very many thousand blows with the hammer must have been delivered. Dr. Frank Smith of Sheffield, who published a very able paper on this subject in the *British Medical Journal* of October 31st, 1874, estimated that a penblade forger who suffered similarly to our patient delivered about 28,000 blows per diem, and if we assume that the hammer weighs 3 lb. and is lifted 1 foot for the delivery of each blow, this amounts to 35 foot tons per diem. If we assume that the work of delivering the blow is equal to that of raising the hammer, and if we add to the weight of the hammer the weight of the arm, we must allow that the work done is about 150 foot tons per diem. This is by no means a very excessive day's work.

You will observe that, as I have previously said, the trouble is by no means limited to the act of hammering. It very obviously interferes with the accuracy of all voluntary efforts of the right hand, and, indeed, the spasm is noticeable to some extent when the patient is making no voluntary effort with it. It is, or used to be, stated in text books that in these cases, beyond the professional trouble, there is nothing detectably wrong, and that all movements excepting the professional movement are perfect. I dissent from both these statements; but, nevertheless, the present case differs from the great majority of professional troubles in the very large amount of peripheral evidence of mischief which is present and the rapidity with which the motor trouble has spread, as it were, from the professional act to the involvement of other acts. Indeed, one cannot escape from the belief that the motor trouble is part of a hemiplegia, for added to the disorderly movements of the upper limb, we have evidence of slight failure of the right side of the face and the right half of the tongue, and probably the exaggerated plantar reflex on the right side tells of diminished cerebral control over the right leg. These trifling signs of hemiplegia, added to the fact of comparatively sudden onset, make it highly probable that the lesion, whatever it may be, would be found in the motor area of the cerebral cortex on the left side. In addition, notwithstanding that I can find no defect of intelligence of any definite kind, I confess that there is something vacuous in the expression of his face, which, added to a certain listlessness of manner and utterance, leaves upon me the impression that mentally he is below the average. He further admits that since his trouble he is more easily moved to anger than formerly was the case.

There is now loss of control over a large group of muscles, and the history of the case makes it probable that at the beginning of his trouble the area of diminished control was smaller than at present, and possibly was limited to one or two muscles, or perhaps a single muscle. That the serratus magnus was the first, or one of the first, muscles to be affected seems to me very likely. It certainly is smaller than its fellow; it certainly was at first less irritable to both forms of the electric current than its fellow; it was the only muscle that I could definitely say was not in a healthy condition; it certainly is brought into play whenever the arm is raised in the act of hammering, and most certainly the plan adopted by the patient of holding the elbow close to his side in the act of hammering would enable him to do so without scapular movement, and thus save the muscle over which control had been lost. Again, the slightly faulty position of the right scapula points to some weakness of the serratus magnus. The slight tilting backwards of the vertebral border and the slight elevations of the lower angle are both indications that the serratus is weak, and the large size of the rhomboid muscles on the right side looks as if they had been employed to compensate for the weakness of the serratus and had been used for steadying the scapula. The prominence of the rhomboid muscles, even when the scapula is at rest, coupled with the fact that the vertebral border of the right scapula is ½ in. further from the middle line than its fellow, led me to think that possibly a bursa or abscess had formed beneath the muscles, and at my request Mr. Godlee very kindly inserted an aspirator at the spot where the prominence is most marked, but with no result.

This case is of interest because of its rarity. It is the first of its kind that I have seen, and for me its chief interest lies in the fact that in many points it offers a striking contrast to all the other cases of professional ailments (and they are not few) which I have seen. In every case of professional trouble that I have seen I have been able, as in this one, to detect peripheral evidence of mischief, but this one is exceptional in the fact that the *peripheral* evidence is evidence of *cerebral* mischief, and enables us to conclude that the lesion is in the brain. This is the only case of hammerman's cramp that has come under my notice, and the only record of similar cases which I can find is in the short paper by Dr. Frank Smith previously alluded to. He was physician to the Sheffield Infirmary, and had seen, naturally, a very large number of hammermen among the patients of the infirmary, and he has placed upon record eight cases analogous to the one we are discussing, and which he called cases of "hephestic hemiplegia or hammer palsy," the word "hephestic," it is perhaps necessary to state, being derived from the Greek word Ἥφαιστος, Vulcan. Of these eight cases six were distinctly hemiplegic in character, while two were cases of brachial monoplegia. In one there was spasm with wasting of the forearm. In one other case there was spasm. In the other cases the symptoms were paralytic, and in four of the cases there was derangement of tactile sense. The ages of Dr. Frank Smith's patients were thirty-one, forty, thirty-two, eighteen, twenty-four, thirty-five, twenty-nine, and fifty-five. He alludes to the points of similarity between these cases and those of writer's cramp, but says that the disease positively differs from writer's cramp in the fact that the cerebral centres are implicated.

It is the difference from rather than the similarity to cases of writer's cramp which constitutes the interest of the case. Cerebral symptoms in writer's cramp and allied professional ailments are infinitely rare, and when present are

very vague and consist at most of some slight dizziness during attempts to exercise the deranged function. In the case we are considering and in Dr. Frank Smith's case cerebral symptoms have been prominent, and, once established, persistent, and in no sense intermittent. Why should this be?

I would offer the following explanation:—Muscular acts differ enormously in the amount of cerebral effort they demand. In some muscular acts we are unconscious of any cerebral effort. This is notably the case in walking, which appears to be almost a purely reflex act, and is often accomplished unconsciously. The woman who walks about gossiping and knitting will do an extraordinary amount of work without apparently giving a thought to her knitting-needles. Even writing—i.e., quill-driving and copying—may be done almost automatically, and so, indeed, may any act in which the tactile sense is largely employed to guide the limb in its movement. An incident which once occurred to myself will serve to show how very automatic a delicate act may become. Some years ago I got a small flake of iron rust into my eye while railway travelling. This caused slight annoyance at the time, but in a day or so I began to suffer from catarrh of the eye, which was excessively painful at times, causing a spasmodic flood of tears and the forcible closing of both eyes. It was in the days when I used a razor, and one morning I was shaving my chin before a looking-glass when suddenly the eyes filled with tears and I closed them; but, nevertheless, I unconsciously finished my shaving, and shaved my chin quite smooth with my eyes shut. There must have been very little cerebration in this act; in fact, had I appreciated what I was doing, I should inevitably have cut myself. My shaving on this morning must have been almost a pure reflex, brought about by constant daily repetition of the same act.

Other acts, again, can never become automatic, and this is notably the case when the movement of the limb is not guided by tactile sense in the performance of the special act. When, for example, did anyone ever thread a needle automatically or unconsciously? During such an act as this there is evidence of strong cerebral effort, as is shown in the face of the sempstress. The taking aim—whether it be at a needle's eye, a bull's eye, or the bit of iron to be forged into a nail—involves the bending of the mind towards the object aimed at; and the aiming at an object against time, as occurs to the pieceworker forging nails, is an act, one would think, which is calculated to cause brain-fag rather than muscle-fag. And the limited number of clinical facts at our disposal seem to point to the correctness of this assumption. When the work done by the muscle is great, and the cerebral effort involved is small, we may well expect the muscle, rather than the brain, to show signs of failure. When, however, the cerebral effort is out of proportion to the mechanical work, as in the repeated act of aiming with a hammer, it is not surprising that, if breakdown occurs, it should occur in the brain. It might be urged that this is not a "professional" trouble—that it is merely a hemiplegic attack followed by post-hemiplegic spasm occurring accidentally in a nail forger. Against this supposition we have to put the fact that his first sign of trouble was in connexion with the professional act; that the spasm of the arm is only seen at its maximum when he attempts to perform the professional act; and that the case does not stand alone, two of Dr. Frank Smith's cases having been very similar in character.

In the average case of writer's cramp I have always contended that, although peripheral evidence of mischief is always present, the evidence does not enable us to say that the lesion is central, although, of course, I very well know that brain cell, nerve fibre, and muscle are practically one. Ordinarily professional ailments never spread to other functions, and certainly the man with writer's cramp is not more likely to become hemiplegic than anyone else. In the case we are considering the trouble, from being merely professional to begin with, quickly spread. This in itself is evidence that in one case the lesion is peripheral and in the other case central, for at the centre where the nerve fibres converge almost to a point any *sudden* lesion is not likely to be limited to the cells connected with one small function only. The nervous system may be compared to a railway with branch lines and a "central" terminus. Now, a fire at Holyhead would not cause any disturbance at Carlisle, notwithstanding that they are both stations on one system of railway, but a fire at Euston would certainly derange the functions of both these outlying stations, and of many others.

The lesion in our case probably began in the part of the centre corresponding to the serratus magnus muscle (for as each limb has its controlling "centre" in the train, so, we must assume, has each muscle of each limb), and thence quickly spread until the right upper limb, the right side of the face, the right half of the tongue and the right leg (?) became involved.

Seeing that the leg is very slightly and doubtfully involved, the lesion, whatever it may be, is apparently almost limited to the left ascending frontal convolution, to an area to which the blood is brought by the ascending frontal branch of the Sylvian artery. Seeing that the onset of the trouble was comparatively sudden, it is not probable that the change which has taken place in the brain is of the nature of a slow degeneration or sclerosis. It is to the vessels of the part to which we must look for an explanation, to hæmorrhage in the area of the ascending frontal artery or embolism or thrombosis of it. There are manifest difficulties in accepting the theory of hæmorrhage or embolism, and against the latter supposition is the absence of any source of emboli. On the whole, I adhere to the belief that the physical basis of our patient's trouble will be found in thrombosis of the ascending frontal branch of the Sylvian artery. In favour of this theory is the fact that his trouble at its commencement was always worse on Monday morning, when the overworked area of his brain had had a period of rest, and when the circulation through it had been, presumably, slow. If we imagine a clot forming in one of the smallest branches and gradually spreading backwards, so as to involve the larger branches of the ascending frontal branch of the Sylvian branch of the middle cerebral artery, we have conditions which, automatically and pathologically, would account for the clinical facts. Thrombosis on the side of the veins leading from this area might conceivably lead to a similar condition, and cause such derangement of nutrition as to prevent the proper control of movement and lead to such a state of things as we are confronted with.

The prognosis in this case is, I fear, not good. Between September, 1885, and February, 1886, his progress has been *nil*, in spite of complete rest, good nourishment, and the therapeutic skill in at least three of our metropolitan hospitals. The deficient irritability of the serratus magnus has disappeared, but even this has not caused more benefit than a similar recovery of normal irritability causes in ordinary hemiplegia. With the exception of this diminished irritability, there have been no indications for treatment in the affected limb. No tender nerves have seemed to demand a blister (which is often of very great use in cases of professional trouble), and no massage or shampooing of the limb would be likely to influence the brain. Rest, if anything, should lead to recovery or improvement; but six months' rest has done nothing, and I very much fear that his trouble is likely to be permanent, and that his loss of control over the affected group of muscles will continue.

Address

ON

MICROBES AND DISEASE,

INTRODUCTORY TO THE DEMONSTRATIONS IN BACTERIOLOGY,

Delivered before the British Medical Association at Brighton, August, 1886,

BY EDGAR M. CROOKSHANK, M.B.

GENTLEMEN,—Many, perhaps, may have expected that the formation of this bacteriological laboratory would be made the occasion for reading papers or holding discussions in connexion with bacterial pathology; it might have been regarded as an opportunity for publishing the discovery of some interesting micro-organism, or for giving an account of recent researches in connexion with the etiology of some morbid process which has been hitherto veiled in obscurity. This, however, is not the case, and for this reason. As is only too well known, we have in England no laboratory devoted to this particular line of research; we have, so far

as I am aware, in London, no institution to which a medical man can be directed where he would obtain a course of instruction or a series of systematic demonstrations. With perhaps one exception, there is no hospital or medical school in London that can be said to give substantial encouragement to this branch of study. Obviously, then, an occasion like the present affords an opportunity of forming a temporary laboratory which may in some measure supply this want, by enabling the busy practitioner, and many others who have not time to visit the laboratories abroad, some opportunity of gaining a practical acquaintance with the subject. Instead of papers and discussions on points of doubt in the past or of hopes of what may be done in the future, we are met to have demonstrations of what has already been done, and more particularly illustrations of those points which, being based upon absolute proof, will undoubtedly bear the test of time and experience. To afford an opportunity of explaining the methods employed in bacteriology, of showing cultivations of micro-organisms, and of demonstrating the microscopical appearances of the pathogenic species, is the purpose for which this laboratory has been arranged. That you should be able to understand the meaning of these mysterious tubes and to appreciate the value of the preparations under the microscope, I will endeavour to briefly describe a few points which indicate the lines of research.

It must be remembered that we have to deal with organisms wonderfully minute, and that we have to study the life-history of each individual species. When we realise the ubiquitous character of microbes, their presence in the air we breathe, the water we drink, and in the earth on which we move and have our being, the difficulties of isolating one particular form from another would seem to be insuperable; nevertheless, with delicate methods and with minute precautions we are able to effect this. The medical man being interested more especially in those micro-organisms which are related to disease, it will be sufficient to give illustrations of the methods which are employed in investigating the life-history of the pathogenic microbes. It must not be supposed that it can be, or ever is, considered sufficient simply to discover by the aid of the microscope a micro-organism connected with a disease in order to proclaim it as the actual cause of the disease. Even if we can, in addition, cultivate it apart from the diseased body, the mere fact of its being able to increase and multiply, and to exhibit peculiar macroscopical characteristics, affords us no evidence whatever of its being pathogenic. From such evidence as this conclusions would be only conjectural, instead of being based upon absolute proof. One cannot, therefore, too often repeat the necessary requirements for accepting the belief in a micro-organism as the *causa causans* of a disease. To Koch we are indebted for laying down concisely what the requirements are. In the first place, the micro-organisms must be constantly found in the blood, lymph, or tissues of the diseased man or animal. To ascertain their presence we must apply our knowledge of practical histology, augmented by many special staining reactions, and in some cases microchemical tests. In the second place, we must isolate the micro-organisms from the blood, lymph, or tissues, and cultivate them apart from the diseased body in suitable media, and we must carry on these pure cultivations through successive generations. To isolate and cultivate microbes requires special apparatus—in some cases simple, in others complicated and expensive. It is at this stage of the inquiry that the investigator requires aid from his medical school or from the pathological department of his hospital, otherwise the expense of the apparatus will probably be such a burden to his finances as to prohibit his prosecuting his researches. The suitable medium must be a pabulum which has been rendered free from all pre-existing micro-organisms. This is effected by sterilisation by means of hot air or steam in such apparatus as you have exhibited before you.

We will suppose that we are anxious to investigate some material, such as blood or pus, in which we suspect the presence of a micro-organism. We take a glass rod furnished at one extremity with a platinum wire; we deprive it of any micro-organisms which may have alighted upon it by heating it in the Bunsen burner, and then, as platinum rapidly cools again, we can almost immediately dip the point of the wire into the material to be examined. This test-tube, which is, as you see, plugged with cotton-wool, is filled about one-third with a nutrient jelly. Holding the tube mouth downwards, and twisting out the plug, the inoculating needle is steadily thrust into the jelly and withdrawn, and the plug replaced. These tubes with their contained medium—nutrient gelatine, nutrient agar-agar, blood-serum, hydrocele fluid, as the case may be—are also perfectly germ free; the tubes themselves have been cleansed and sterilised by a temperature of 150° C. for an hour or longer, the cotton-wool sterilised by similar means, and the nutrient medium itself sterilised by exposure to prolonged heat or by boiling on several successive days. If it were not so, the nutrient jellies would in a very short time fall a prey to bacteria of putrefaction, or, in simple language, "go bad." It is sufficient to introduce an invisible quantity of micro-organisms. Nothing will be observable immediately after the inoculation, but in the course of a day or two according to the rapidity of the growth of the particular micro-organism, the temperature of the room, and the nature of the nutrient medium, the germs will increase and multiply in the needle track, and produce some visible change. The resulting appearances are very varied. You have many examples before you: in some there is the appearance of a white thread or a delicate cloud; or the medium has liquefied or become milky, or tinged a pea-green or smoky brown; or a growth or deposit has resulted, of a blood-red, vermilion, purple, or yellow colour.

The method just described is simple and effectual when we have to deal with the presence of one micro-organism, but it may be well asked, What is the course of procedure if there are different species of micro-organisms present together? How can a mixture of micro-organisms be treated so as to isolate them one from another and to test the properties of each? How can they be separated so as to ascertain which are pathogenic and which are harmless? In such a case there is a method which is as simple as it is beautiful. Instead of inoculating our medium in the solid state, it must be first liquefied, and when the mixture of microbes has been introduced the inoculating needle is stirred round and round, and the test-tube tipped and rolled between the fingers. The microbes introduced become disseminated throughout the liquid medium, and if the gelatine is poured out upon a small pane of glass the individual microbes are fixed by the setting of the gelatine, each in a particular spot. In order to effectually separate the different species of micrococci, bacteria, or bacilli, which may be present, from each other, we must employ a method of dilution. A fresh tube of liquefied jelly is inoculated with a droplet from the first tube, and a third tube from the second, and a fourth from the third. Then in the "plate cultivations" which we prepare with these diluted inoculations we shall find that the micro-organisms have been completely separated from each other; the colonies resulting from each microbe giving rise to its own species will be so completely isolated as to leave no chance of their commingling. From these colonies we inoculate fresh tubes of nutrient media, so that at last we have growing in separate tubes all or nearly all the microbes present in the original mixture. The appearance of these colonies before inoculation should be carefully studied, for in some cases they are absolutely characteristic, and in others help to distinguish micro-organisms which resemble each other in form. As an example of a very beautiful and characteristic colony growth, I would draw your attention to the impression-preparations of colonies of anthrax, and several other micro-organisms exhibited under the microscopes. The same method has been also extensively used for studying the various microbes in water; but we must remember that nutrient gelatine is not a suitable pabulum for each and every microbe, and we must therefore supplement our test by means of cultivations in other media. As an example of another medium I would point to the growths on sterilised potato. The outside of the potato is covered with microbes found in the earth, and these must be removed by thoroughly cleansing them and soaking them in a solution of corrosive sublimate. When cut in half with a sterilised knife, the cut surfaces present a germ-free soil, which is particularly suitable for the rapid growth of many, particularly the chromogenic species. The inoculations traced over the potato with no immediate visible effect, will in the course of a day or two develop such a growth—for example, of the *bacillus violaceus* or *micrococcus prodigiosus*—that one might imagine that some violet or red ink had been spilt over the surface of the potato. These pigment-producing microbes are of the greatest interest, for not only is there a wide field for research in the investigation of the chemistry of these pigments, but the very fact that these simple organisms

are endowed with the power of producing such striking colours—are, indeed, miniature laboratories of these beautiful pigments—helps us to understand that other species are equally capable of manufacturing the most virulent poison or of inducing some chemical change, some fermentation, in the blood or tissues which produces a fatal result.

By such means having obtained a pure cultivation, we must carry it on through successive generations. The importance of the successive cultivation cannot be overestimated, for the process does away with the possibility of the fatal result being due to some chemical poison transferred from the material examined to the nutrient jelly. If after carrying on a cultivation through a hundred or a thousand tubes the growth is as virulent as in the first tube, it surely cannot be held that the result is still due to any chemical poison mechanically carried over in the first inoculation, for the original fraction of a drop must have become diluted to such an extent as to be absolutely inert. We must be able with a pure cultivation to produce the disease in question; and, lastly, we must be able to find the micro-organism again in the blood, lymph, or tissues of the inoculated animal. It may be asked, Are there any micro-organisms which undoubtedly comply with all these requirements? The answer is, Most assuredly there are. We may, indeed, very roughly divide the so-called pathogenic microbes into three great classes: first, those which absolutely answer these tests in every particular, and which are therefore undoubtedly the cause of disease; secondly, those in which the chain of evidence is not absolutely complete, but which we nevertheless believe to be the cause of the disease; and, lastly, those which are very probably only accidentally associated with disease. Of the first class, the bacillus of anthrax, the bacillus of mouse septicæmia, or the micrococcus tetragonus may be given as examples. In all these cases we can easily isolate the microbe, we can carry on any number of successive pure cultivations, and we can always reproduce the disease and find the same micro-organism again. Of the second class, we may give as examples the bacillus of tubercle and of leprosy. In the case of the first named the evidence is very strong; but the chain is not absolutely complete, in that, in some cases of tuberculosis, in tissue sections it is very difficult to demonstrate the existence of the bacillus at all, and therefore, until such cases are explained, or until it is more generally accepted that there are forms of tuberculosis etiologically different, of which bacillary tuberculosis is one, there may continue to be doubt in the minds of many as to whether the discovery of this bacillus is of any importance at all. So, too, with the bacillus of leprosy the chain is incomplete, for the bacillus has not been cultivated apart and the disease reproduced by inoculation, and yet, from the veritable invasion of the affected tissues by the bacilli, there can be but little doubt that the bacilli are the active agents in producing the disease. Lastly, we have the class which includes many micrococci, bacteria, and bacilli, present, for example, in the mucous membranes of the respiratory and alimentary tracts, or in the skin, which have been described as characteristic of certain diseases, but about which we must have far more certain evidence before we can maintain that they are more than accidental associates.

DROGHEDA UNION: THE LABOURERS ACT.—Drs. Delahoyde, Callan, and O'Keeffe, medical officers of this Union, having been refused a fair remuneration for inspecting labourers' cottages, &c., under the Act, have served writs on the guardians. The medical officers asked the moderate sum of 5*s.* for each inspection, and they were offered 2*s.* 6*d.* The guardians will defend the action, but there is little doubt that they will be defeated with heavy costs.

SALFORD ROYAL HOSPITAL.—A new wing has just been added to this institution, at a cost of £20,000, which has been paid out of a bequest under the will of the late Mr. John Pendlebury, no appeal having so far been made to the public. Amongst other features, the new wing has three wards, totally isolated from the remainder of the building, for the reception of any cases of infectious disease which may be developed in the hospital, and an operating theatre. The out-patients' department, with the accident ward, is placed at the rear of the building. The hospital, which hitherto has only contained sixty beds, will now be provided with 120. It is expected that the wing will be completed for the reception of patients during the course of next month.

CLINICAL REMARKS
ON
THE TREATMENT OF SYPHILIS BY SUBCUTANEOUS INJECTIONS OF MERCURY.

BY J. ASTLEY BLOXAM, F.R.C.S. ENG.,
SURGEON AND LECTURER ON OPERATIVE SURGERY, CHARING-CROSS HOSPITAL.

THE lecturer mentioned the excellent results which he had obtained at the Lock Hospital and elsewhere in the treatment of syphilis by intra-muscular injections of a solution of the perchloride of mercury. The solution for injection contains six grains of the perchloride to the ounce of distilled water, and should be made fresh for each *séance*. Since he had adopted this method, now a period of some eighteen months, upwards of 1500 cases had been treated with the best results. The sore generally begins to heal very promptly after one or two injections, the secondary symptoms are markedly modified, and after a course of treatment extending over a year, more or less, the patient is enabled to discontinue his attendance. Towards the latter end of the course of treatment the injections may be given less frequently, and as a general rule not more than from eight to twelve grains of the perchloride are injected in all. It is undesirable to repeat the injections oftener than once a week, as otherwise salivation might be induced, and the quantity injected each time (one-third of a grain) is found to be quite sufficient until the next time. There are several advantages attending this method of exhibiting mercury. In the first instance it is only necessary to see the patient once a week, when sufficient mercury is injected to last until the following week; secondly, salivation is not produced, as when the patient continued to take mercury for a whole week away from the supervision of his medical attendant; thirdly, the gastric derangements which are so apt to follow the administration of mercury by the mouth are by this means avoided; lastly, the ease and certainty of the administration, which enable the surgeon to do his own dispensing with a minimum of trouble. A little quinine is generally given during the course as a tonic, but no other form of mercury is administered.

The injection itself is a very simple operation, but certain rules have nevertheless to be observed in order to obviate any inconveniences which might otherwise result. An ordinary glass hypodermic syringe is used with a fine needle (the needle is apt to become very brittle from the action of the mercury on the steel and requires to be replaced from time to time), containing twenty drops of the solution, equivalent to one-third of a grain of the perchloride. After filling the syringe the needle is freed from adhering solutions by washing in order to avoid irritation in its track, and is then plunged deliberately into the muscular tissue of the buttock, selecting for this purpose the spot corresponding to the muscular mass of the glutei into the substance of which the injection is made. If this precaution be observed, no discomfort or abscess formation follows, the only solitary case in which this has occurred being attributable to the injection having been made into the areolar tissue over the trochanter. The pain of the injection is but slight, and soon passes off. It is desirable that the patient should not take active exercise immediately after the injection, as it has been noticed that blood may be effused at the point of injection, giving rise to the sensation of a severe bruise of the part, which lasts for several days. The same effect has followed the puncture of a large vessel, but in any case the result is only transient, and disappears after the lapse of a few days. If for any reason the buttock be objected to as the site of the operation, the injection may be made into the trapezius muscle at a point two inches above the superior angle of the scapula, but the injection into the buttock is attended with less inconvenience.

Mr. Bloxam mentioned that his own opinions were strongly in favour of syphilis being bacillar in origin, thus accounting for the specific action of mercury in the treatment of the disease. In support of this view he alluded to the remarkable researches of Messrs. Eve and Lingard, whom he had furnished with blood and chancrous tissue from patients at the Lock Hospital, the subjects of syphilis.

They have succeeded in detecting and cultivating a bacillus which could generally be found in the blood and tissues of syphilitic patients who had not been subjected to the influence of mercury, or who at any rate had not taken it long. In a contribution to THE LANCET of April 10th, 1886, they say: "In none of the cases from which cultivations were obtained had mercury been administered for any length of time, and a long series of failures have led us to reject entirely cases which have been long under mercurial treatment." With this fact in view, the importance of obtaining a thorough and certain permeation of mercury in the system is apparent, and without claiming any originality in this method of treatment, the lecturer wished to bring before them the extremely favourable results he had obtained from it.

BILOCULAR EMPYEMA; THORACENTESIS; DIVISION OF SEPTUM; COMPLETE RECOVERY.

BY GEORGE PADLEY, L.R.C.P.LOND, &c.,
CONSULTING PHYSICIAN TO THE SWANSEA HOSPITAL.

ON the morning of December 18th last I was sent for to see a young lady, aged between seventeen and eighteen, who had been seized somewhat suddenly soon after midnight with a very severe pain in the right side, preceded by a sharp rigor. She had gone to bed feeling quite well, and awoke at the time named with the above symptoms, accompanied by intense headache and thirst. The only cause to which they could be traced was exposure the previous day to an open window in a covered waggonette. When I saw her she was in a state of high fever, side acutely painful, temperature 104·8° F., pungent heat of skin, pulse 120, respiration 38, subsequently reaching as high as 45; short cough and dyspnœa. These symptoms were soon followed by fine crepitation at the base of the right lung—rusty expectoration, and some friction sound,—in fact, the ordinary symptoms of an attack of acute pleuro-pneumonia. She passed through the earlier stages of the malady favourably, the more urgent symptoms having gradually subsided until the morning of the sixteenth day (Jan. 3rd), when the temperature had fallen to 99·8°. It is needless therefore to give further details of the case, which pursued the ordinary course of this disease, or of its treatment, up to this time. In the evening of Jan. 3rd there occurred a fresh accession of acute symptoms, without any apparent cause beyond some stomachic disturbance, and the temperature rose to 103° and continued averaging from about 101° morning to 103° (on two occasions 104°) evening, until the 24th, when the morning temperature fell to 100·2°. As time advanced the percussion dulness had become more dead, the breath sounds, clear and even exaggerated immediately beneath the clavicle, were inaudible elsewhere, excepting in a space beneath the angle of the scapula; vocal fremitus absent, respiratory movements almost *nil*, voice bronchophonic and distant. Such symptoms, together with the history of the case, plainly indicated effusion within the right chest. The dictum of Dr. Wilks—that "if the case be one of pleuro-pneumonia, and there result, after the acute attack, the same local physical signs (localised dulness with absence of breath-sound, and perhaps distant tubular breathing), then also an empyema is present,"[1] a most valuable inference derived from his large experience—also pointed to the same conclusion. On the other hand, not only was there an absence of any enlargement of the right side, or bulging of the intercostal spaces, but the reverse, the right side appearing rather smaller than the left, and even somewhat contracted. In addition to which there was the localised respiratory murmur near the angle of the scapula, at which spot the air appeared to enter more freely than before. These conditions, though subsequently explained, inculcated caution at this time with regard to operative interference. I could not help also feeling some anxiety as to the state of the lung. The evidences of effusion, however, became more pronounced as the case progressed, and these were corroborated by some displacement of the heart towards the left side, and slight bulging of the right. The general condition had, notwithstanding, somewhat improved, and the average of temperature had fallen about a degree. Before proceeding further, it was thought advisable to have a consultation, and on Jan. 18th Sir Andrew Clark was written to, and kindly came down the following day. He confirmed my diagnosis as to the effusion, but advised postponement of paracentesis for a time, unless rise of temperature, growing embarrassment of the breathing and heart's action, failing general condition, or indications of hectic, should render it necessary at an earlier period.

On the morning of the 24th the patient continued in much the same condition; in the evening, however, there was a marked change for the worse. She had had a restless, feverish day; and when I visited her at about 9 P.M. I found her symptoms had assumed a serious aspect. The axillary temperature was 103°; pulse small, about 135 (partly no doubt accelerated by emotion); breathing distressed; respiration above 40. I therefore determined to postpone the operation no longer, and that night, with the assistance of Mr. Farrant Fry, tapped the chest, under ether spray, with the aspirator in the seventh intercostal space, below where the breath-sounds were heard, and in the posterior axillary line, and withdrew rather more than half a pint of purulent fluid. After this quantity had been taken the aspirator, although the cannula was cleared, ceased to act. As we found the tube of the instrument blocked by fibrinous coagula, we assumed, incorrectly as the sequel showed, these to be the cause of the stoppage. Very material relief, however, especially to the breathing, was afforded by the operation. After the subsidence of some coughing the patient had a good night, having slept calmly for more than four hours continuously. At 11 A.M. (25th) the temperature was 99°, at 9.30 P.M. 100·5°, the pulse and breathing quieter, and the general condition much improved. As, however, the nature and the quantity of the fluid withdrawn, together with some remaining symptoms, indicated the necessity for further relief, a free incision into the pleural cavity was determined on, which was accordingly made the next morning at the site of the previous aspiration, but without the slightest appearance of pus or any other fluid. I had cut into an empty sac. It was evident, however, that there was more fluid pent up somewhere. I passed my finger freely into the cavity, and found the sac from which the pus had been withdrawn surrounded, especially above, by firm adhesions. I then passed a silver catheter through the wound, and made its point project into the ninth interspace, and (as I originally purposed for more efficient drainage) cut down upon it, but with no result whatever in the way of discharge. The remaining pus was clearly encysted above, the dense adhesions felt in that direction probably forming the floor of the cavity. I asked Mr. Fry (who most efficiently administered the anæsthetic, and whose kind co-operation I have to acknowledge) to pass his finger in, and he thought he felt slight fluctuation. I then passed a small long cannula (belonging to the aspirator case) up to this septum—a distance, as near as I could guess, of between two and three inches,—keeping it as near as I could to the parietes of the chest, to avoid the chance of wounding the lung, and through this thrust a trocar, and pushed both onwards. On withdrawing the latter, to our infinite relief, a drop of pus made its appearance at the mouth of the cannula. I at once enlarged the opening thus made with a bistoury, and a gush of pus took place and flowed freely through both external wounds. A full pint was measured, and at least half a pint or more in addition must have escaped. The patient was greatly relieved. A large-sized drainage-tube was inserted through the upper wound into the upper cavity, the lower wound being also kept open to allow of the escape of any pus that might find its way to the lower part of the pleural cavity from the upper cyst. The wounds and drainage tube were then completely covered over with a thick layer of carbolised tow, and this again by some layers of carbolised gauze. A hypodermic injection of morphia was then given, and the patient left to rest.

The morning and evening temperature on the 27th was 99°, and varied but little from this for about a week, when the average was somewhat higher. The drainage appeared perfect, some fibrinous shreds being discharged with the pus, which was not in the least offensive. The secreting action of the cavity first opened appeared also to have ceased. During the subsequent dressings night and morning the atmosphere surrounding the patient was impregnated by the vapour of pine wood oil diffused by

[1] Brit. Med. Journal, vol. i., 1879.

means of a steam kettle, into the water of which three teaspoonfuls of the oil were poured. This, acting as an antiseptic, together with the carbolised dressings, &c., though not perhaps strictly Listerian, contributed, I believe, to preserve the purulent discharge in the pure and inoffensive condition which was maintained during the whole period of the treatment. It is, perhaps, unnecessary to say that all the drainage-tubes and other instruments were immersed in a carbolic lotion before being used.

As the case progressed there were occasional periods of febrile disturbance which had to be met, but as the interest of the case centres in what I have above described, I will not prolong this paper by any detail concerning these, nor occupy space and time by a record of the general treatment, medicinal, dietetic, &c., which was adopted. One thing, however, I may note as having had a favourable influence in hastening the satisfactory result. The pyogenetic cavity being situated at a high level—i.e., opposite the submammary region—I adopted the plan of raising the patient to an upright sitting position during the dressings, and afterwards for half an hour out of bed before them, when she was also desired to walk about the room. The consequence was a freer discharge and more complete emptying of the cavity. This appeared to have a decided effect upon the temperature (which had varied from 99° to 100° or 101°) and upon the subsequent progress of the case. I gradually reduced the length and calibre of the drainage-tubes, until the last used, and finally withdrawn about March 18th, was a portion of a No. 4 catheter à boulé, a little fibro-serous discharge being all that remained at that time. The temperature was normal on March 15th and continued so. The upper wound healed satisfactorily soon after the withdrawal of the catheter, the lower one having been allowed to close some time before. The general health rapidly improved, the breath-sounds became more distinct and extended, the percussion note clearer, the heart also returning to its normal position. At one time there was some contraction of the right side, with slight curvature of the spine, but these gradually diminished, and her strength, breathing power, and capacity for exertion steadily increased. I examined her carefully twice in April and again about a week ago. The spine is straight and almost perfect symmetry has been regained. The percussion note and respiratory murmur are normal in front, or very nearly so—not quite so clear or distinct behind, although fairly restored, excepting at the lowest part of the base of the lung. She is able to take active exercise, rides on horseback, mounts stairs or a hill without embarrassment, and nearly as well as before the attack, from which, indeed, she may now be said to have completely recovered.

The case was of course one of great and continued anxiety. In 1879, Dr. Wilks thus writes: "Amongst the numberless affections of the lungs and their appendages which, during the last two or three years, have presented the most difficult problems of treatment, have been localised pleuritic effusions or empyemata." The views upon this question of treatment, especially in regard to operative measures and subsequent management, have undergone a marked change during the last few years. It was stated by an eminent authority, M. Jaccoud, in 1879,[2] that he "had acquired proof that multilocular pleurisies do not bear thoracentesis satisfactorily;" and that "multilocular acute pleurisy ought not to be treated by thoracentesis; puncture is only authorised in order to relieve in emergency the vital indication resulting from really imminent suffocation,"—a doctrine entirely opposed to the lesson derived from the case I have described, as well as probably from some others, more or less similar in character, of which two have been recorded by Professor Morgan of Manchester,[3] and one by Dr. Darwin,[4] though in the latter the empyema pointed in the thoracic wall, and was there opened. There are few also who would now, I think, be disposed to adopt, "even if the case should run altogether a normal course," the heroic measures recommended in an exhaustive article on this subject, largely read and quoted, in Ziemssen's Cyclopædia, involving the frequent cleansings of the pleural sac with water, followed for several days with a solution of common salt; then, after a few days, replacing this with compound tincture of iodine, in 20 to 50 times its bulk of water, or solutions of permanganate of potash or of carbolic acid, "even if there is no fever and the contents of the pleural sac are not fetid."

With regard to the localisation of the purulent cavity, the only instance I have met with, partially corresponding to the one I have given, is recorded by the late Dr. Fagge, in which fluid was found, post mortem, filling the upper part of the pleural cavity, while crepitant lung tissue still existed in the lower part. He states, also, that the limitation of such effusion by adhesion is seldom so complete as to lead to the formation of two or more collections of fluid entirely cut off from one another. Here the limitation was complete.

I have recently (July 27th) examined the patient, and find the right lung fully expanded and the respiratory and percussion-sounds normal.

Swansea.

CASES OF

URINARY DIFFICULTIES OCCURRING IN BOYS.[1]

By WILLIAM THOMAS, F.R.C.S.,

HON. SURGEON TO THE BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.

URINARY troubles in children present many points of interest, though they may not perhaps be of so serious a nature as similar conditions in adults. The following cases appear worthy of record, partly from their comparative rarity, and partly from the treatment adopted. All of them occurred at the Birmingham Children's Hospital, and I am indebted to the various resident officers for most of the notes appended.

Extravasation of Urine.

CASE 1.—George R——, aged four, was brought to the Birmingham Children's Hospital on Oct. 2nd, 1880. His mother gave the following history. The child had always complained of pain in his abdomen. When he was three years old his mother was in the workhouse infirmary, and the boy in the children's ward of the same institution. The nurse told his mother that he could not hold his urine, which was constantly dribbling. Medicine was prescribed, and on leaving the infirmary his mother noticed nothing wrong with him, nor was any peculiarity observed about the penis. He was quite well for some time until Sept. 20th, 1880, when he complained of being unable to micturate. During the whole day he strained very hard, holding on by the bedpost like a woman in labour. He was seen by a doctor in the evening, who ordered medicines and fomentations. On the morning of Oct. 1st the penis began to swell, and the doctor recommended him to be brought to the Children's Hospital. I saw him first on Oct. 2nd. The bladder was distended to the umbilicus; there was much elastic swelling of the penis; the scrotum was large and œdematous; and general œdema extended along both inguinal regions, across the pubes, and backwards in the perineum to the base of the triangular ligament. Free incisions were made into the swollen parts, from which clear but slightly blood-stained fluid escaped. The patient was placed in bed and the parts irrigated with weak carbolic lotion (1 in 100). At first a catheter was placed in the bladder, but as it appeared uncomfortable it was withdrawn after three hours.—Oct. 3rd: Urine drawn off at 7.30. Circumcision performed at 10, relieving the glans from the pressure of the still œdematous prepuce. The bleeding was arrested by forcipressure. Child much more comfortable; only complains of thirst. Some tenderness over the lower part of the abdomen, none elsewhere.

The notes of this case, which were taken daily, show that catheterism was required to empty the bladder for about seven days, after which the urine was voided spontaneously; that it spurted through one of the incisions near the root of the penis on the right side; that an abscess formed in this situation, and a considerable time was required before urine and pus ceased to be discharged from it; that the boy recovered without any permanent injury to the urethra or penis, and that no stone was found. What was the cause of retention and the seat of obstruction to the flow of urine in this case? As a catheter could readily be passed into the bladder, it seems hardly likely that a calculus in the urethra produced the stoppage. The history suggests that a calculus

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[2] British Medical Journal.

[3] THE LANCET, vol. i., 1881.

[4] Ibid., vol. ii., 1882.

[1] The substance of this paper was read at a meeting of the Midland Medical Society last session.

blocked the urethra, caused ulceration, and escaped: and the fact that an abscess and a sinus formed near the root of the penis, through which urine passed readily, points to the position of the ulceration. But as no calculus was discovered, the evidence is not complete. The boy had also a tight phimosis, enough of itself to cause obstruction. The extravasation, as in all the cases I have seen among boys, first distended the penis, then passed to the scrotum and along the inguinal regions; so that the phimosis might have had more to do with it than seemed at first apparent.

CASE 2.—That a phimosis may lead to extravasation is clear to me from a case which came under my care some four or five years ago. The patient was a little boy about three years old. The penis was enormously swollen and translucent. Circumcision was at once performed, and on examination of the removed foreskin an opening was discovered on the inner surface, through which the urine had passed. No incisions were made in the skin of the penis in this case, although the swelling was great, and on removal of the prepuce urine gushed out; but the free exit afforded by circumcision quickly reduced the enlargement, and although the penis for some days was of a dusky red, no sloughing or even suppuration occurred.

CASE 3.—Albert H—— was brought to the Children's Hospital in November, 1877, with enormous swelling of the penis and areolar tissue about the pubes. The house-surgeon requested one of my colleagues, who happened to be in the hospital at the time, to see him. Several free incisions were made into the swelling, from which urinous fluid escaped. I saw him shortly afterwards, and ordered irrigation. The case did well in every respect but one. One of the incisions had been so free that the urethra was opened for about an inch, and a penile fistula resulted which afterwards gave me much trouble. In this case, as in the majority of such cases in children, there was no necessity for deep incisions. Circumcision seems to relieve the swelling and drain off the effused urine much more effectually than incisions into the skin, and the urine is not very irritating to the tissues. The severe cases which occasionally occur, such as are reported by Mr. Cooper Forster in his work on the Surgical Diseases of Children, are exceptional. I believe that irrigation is an important aid to treatment, and exercises a considerable effect in the prevention of inflammation and sloughing, which the old treatment by poulticing seemed rather to encourage.

CASE 4.—*Congenital Malformation of Urethra, causing difficulty in micturition; treated successfully by Suprapubic Cystotomy.*—Edward J. H——, aged four, was admitted into the Children's Hospital on July 3rd, 1885, under the care of my colleague, Mr. G. Elkington. His mother stated that he had never been a healthy child, and always seemed low and pining. He never from his birth micturated properly, the urine either passing in drops or in a stream not larger than a fine needle; micturition was also very painful, the child screaming and seizing hold of the penis, so that he always dreaded it. His bowels were irregular, and the motions were sometimes white and firm, but often like matter mixed with blood. He had once or twice passed a drop of blood at the end of micturition, but never any gravel. He had not suffered from any zymotic disease. He was seized with two convulsive fits last December, and the doctor thought they were due to the urinary irritation. On examination after admission the above account of his symptoms was fully confirmed. The urine could only be passed in drops or in a very fine stream, and sometimes dribbled away; frequently the boy was unable to pass it until he had been placed in a warm bath. His bladder was considerably distended. The urine was alkaline, and contained about a fifth of a column of pus, but no casts could be found. His prepuce had somewhat the hooded appearance seen in hypospadias; the meatus was in its usual position, and a No. 6 catheter could easily be passed for about an inch down the urethra. Several attempts were made, but no instrument or fine probe could be inserted further; the urethra beyond seemed to communicate with the bladder by some fine channel, but the extent and position of this could not be made out. There was no apparent swelling or enlargement of the urethra beyond the constricted part, when straining during micturition.

As Mr. Elkington was going abroad, he kindly transferred this patient to me. I at once determined to open his bladder above the pubes and explore the urethra from its commencement. My reasons for adopting this course were founded chiefly on the uncertainty as to the situation and extent of the obstruction to the flow of urine. It was easy after the event to see that a different course might have been adopted, possibly with success; but at the time, we had to deal with a contraction of the urethra—how produced, and its extent and nature, whether congenital, mechanical, or inflammatory, were not apparent. The operation was performed on Aug. 4th. An incision about two inches long was made in the median line above the pubes, the recti tendons divided, and the bladder exposed; this was freely opened by a transverse incision. The bladder wall, although distended, was much thickened, and its mucous membrane in a state of chronic catarrh. It contained some four or five ounces of thick, stinking, purulent urine. Passing my finger into the bladder, I found the urethra, and easily directed into it a No. 7 gum-elastic bougie; it passed readily to the obstruction, and on examination its point could be felt at the end of the glans penis and on the right of the meatus. The thin stratum of skin covering it was divided and the bougie passed through, withdrawn, and afterwards repassed into the bladder from the meatus. The complete patency of the urethra was thus established. There was some hæmorrhage from the distended veins covering the bladder, which soon ceased. The upper part of the skin wound above the pubes was brought together by two silver wire sutures, the rest being left open for the free escape of the contents of the bladder. Perhaps it would have been an advantage to have washed out the bladder thoroughly, but this was not done, and probably the escape of fetid matter into the areolar tissue gave rise to the subsequent slow progress of the case.

At first the child progressed favourably; at the end of a week there had been no rise of temperature; and ten days after the operation he began to pass all the urine by the urethra; but when the urine ceased to pass over the pubes, inflammatory action took place about the wound, abscesses formed in the areolar tissue above the pubes and delayed healing, besides reopening the communication with the bladder. The quantity of urine passed by the urethra and by the wound varied much, sometimes scarcely any passing by the fistula, at others a considerable proportion, perhaps one-fourth. The urine became clear, and the power of retention, which did not at first exist, was gradually acquired. Four months after the operation a fistula still remained, and on exploring this a buried suture was removed, after which the fistula gradually closed, and the patient was discharged cured. Careful examination still shows that a kind of septum was present near the termination of the urethra, dividing it into two tubes, and acting as a valve to prevent the discharge of the urine. The case, so far as I am aware, is unique.

CASE 5. *Complete Rupture of the Urethra from a fall on the Perineum, with extensive separation of the divided extremities; treated by suture, without catheterism; perfect and rapid recovery.*—Harry J——, aged eleven, was admitted on Oct. 10th, 1885. The day before he had fallen with his perineum across a rail. The fall caused much pain and inability to micturate. The surgeon who was called in attempted to pass a catheter, but without success, and the boy was sent to the Children's Hospital. The resident officer also tried catheterism, but was unable to reach the bladder. I saw him for the first time in the evening of the day of admission. He was then in great pain from distension of the bladder, which reached to the umbilicus. The scrotum was much swollen and dark-coloured, the perineum black from ecchymosis, and there was also some ecchymosis along the right groin. Chloroform was given and the scrotum freely incised on each side; this did not free much fluid; the tissues were gelatinous-looking, and the slight serous discharge from the cut surfaces had no urinous odour. A catheter was introduced into the urethra, but after passing easily for about three inches it seemed to enter a cavity which was evidently not the bladder, although about a tablespoonful of bloody urinous fluid was withdrawn at each attempt. The perineum was incised, and on passing the finger into the wound the point of the catheter was felt in a large cavity, which was filled by coagulated blood and some urine. It was determined to wait until morning before any further operative proceedings were undertaken. In the meantime the cavity was ordered to be freely syringed out with weak carbolic lotion and the surface of the scrotum and incisions irrigated. The bladder was aspirated above the pubes and 23 oz. of slightly turbid urine withdrawn. Five minims of tincture of opium to be taken every four hours.

Oct. 11th: Has passed a fairly good night. Swelling of scrotum much diminished; no urine passing by incisions. Chloroform administered, the boy placed in the lithotomy position, and the perineum incised in the median line until the bulb of the urethra was exposed and the cavity of the perineum fully opened. The urethra was then seen to be completely torn across just behind the bulb; the posterior part was retracted and separated for about two inches, lying deeply in the perineal cavity. A catheter was easily passed through this into the bladder, and some urine withdrawn. A lithotomy staff was next passed along the whole extent of the urethra into the bladder, and the separated parts brought together and stitched with three silver wire sutures. The sutures were passed completely through the wall of the urethra and each tied outside in a reef knot, the ends being cut short. With the staff still in the bladder, the membranous part of the urethra was opened by an incision such as is made in lithotomy to allow of the escape of the urine by the perineum, and, by keeping the stitched urethra free from contact with that fluid, to give a better chance of union. A tube was passed through the incision into the bladder, the boy placed in bed, and irrigation continued.—12th: Patient looks comfortable; has passed a good night; temperature normal. A black clot fills each incision in the scrotum; urine passes freely by the tube. A warm water enema was administered, by which the bowels were freely moved.—13th: Continues improving; tube had partly slipped out and was completely withdrawn, as the urine escapes freely without it.—16th: As there appeared to be rather an ammoniacal odour about the wound, a flexible indiarubber catheter was passed into the bladder from the perineum. The urine withdrawn was clear, pale straw colour, and free from any ammoniacal odour. The same catheter, a No. 7, was passed down the urethra into the bladder quite easily. This was the only time an instrument was passed along the urethra from the time of the operation. For the next few days the boy steadily improved, and on the 26th it was noted that all the urine passed by the urethra, and that the perineal wound was rapidly closing.—Nov. 13th: A careful observation was made of the size of the stream passed during micturition; it was estimated to be as large as a No. 8 catheter, and was attended by no straining or pain.—23rd: Perineal wound quite healed; boy to get up.

I have seen this patient about every month since, and he continues in every respect well. The size of the stream of urine during micturition is larger than when he left the hospital; no induration or pain is experienced at the site of the sutures. It will be observed that these were not removed; they became so quickly buried in the wound, and excited so little irritation, that it was unnecessary to disturb them. Hitherto they have given no trouble, and the boy would not be conscious of their presence if he had not been told.

I believe there are several cases on record in which suture of a ruptured urethra has been practised; but as yet it scarcely seems to be a recognised proceeding, as our surgical text-books say so little about it. My friend, Mr. Hawkins, had a somewhat similar case to the above, with an excellent result; and Mr. Mayo Robson has, I believe, excised a stricture and successfully united the two parts of the urethra. Mr. Birkett's case is also well known. But every additional case is worth recording, as showing that in such injuries to the perineum from falls or sudden impact, attended with retention of urine, we ought at once to dissect down to the urethra, ascertain the amount of damage, and endeavour to repair it. Such a course of proceeding, more frequently followed, would do away with the surgical difficulties in the relief of the miseries of traumatic stricture by preventing its occurrence.

PRESENTATION TO SIR DYCE DUCKWORTH.—On Saturday last the matron, many of the sisters, and nurses of St. Bartholomew's Hospital assembled in John ward to present a testimonial to Sir Dyce Duckworth on the occasion of his resigning the medical lectureship in the nursing school of the hospital. The testimonial consisted of a Doulton ware salad-bowl, mounted in silver, and suitably inscribed, together with a large photographic album and an address. Sir Dyce Duckworth expressed his thanks for the very handsome gift, and regretted that he was compelled to give up teaching in the nursery school, which he had always been much interested in since he began the lectures nine years ago.

NOTES OF A CASE OF GASTROSTOMY.

BY GEORGE A. HAWKINS-AMBLER, L.K.Q.C.P.I., &c.

D. L——, master dyer, aged sixty-one years, came under my observation on November 14th, 1885, when I was called to him in consequence of a severe attack of hæmorrhage, which came on suddenly whilst he was standing at his office desk early in the morning. He "felt something cut or break" in the throat, and blood came up in mouthfuls to the extent of about two pints. Complete rest in bed, the hypodermic injection of three grains of ergotin, and the exhibition of half-drachm doses of oil of turpentine in egg albumen every three hours was followed by entire stoppage of the bleeding. These circumstances—the patient's age, hæmorrhage easily controlled, with the following symptoms—led me to diagnose cancer of the gullet. Family history good; no history of syphilis. With the exception of repeated attacks of quinsy he has always enjoyed good health. For two years past he has felt a slowly increasing difficulty in swallowing, and in July last consulted a surgeon who, by dilating the œsophagus with bougies, enabled him to swallow with more ease for some months. The last time the bougie was passed the instrument was stained with blood, and he grew alarmed and never went again. From July to November he underwent no further treatment, but lived on thick soups with such solids as Yorkshire pudding, which he could swallow with difficulty, and milk foods. A loss of some two stones in weight, however, indicated the progress of the disease and insufficiency of food; but he carried on his business regularly up to Nov. 14th. The recent hæmorrhage precluded the passing of a bougie; but I learnt from his former attendant that the constriction was opposite the manubrium sterni. The hæmorrhage relieved the constriction somewhat, so that for a fortnight later he could swallow dry oatmeal porridge. I asked for the opinion of Dr. T. Kilner Clarke of Huddersfield, which confirmed my diagnosis of cancer, and suggested a gastrostomy as the only thing to be done. I may add there were no physical signs whatever to help the diagnosis. As the patient could not be adequately fed, and the weakness increased rapidly, especially after a second attack of hæmorrhage, the operation was done, as soon as patient gave his consent, Dec. 17th, by Dr. Clarke.

Half a pint of Benger's food was given by the mouth at 6.30 A.M. and a Slinger's nutrient suppository at 7.30. The operation commenced at 9 o'clock A.M. Ether was administered, but was soon changed for chloroform, as the action of the abdominal muscles was tumultuous. The margins of the stomach being ascertained by percussion, an incision four inches long, commencing three-quarters of an inch above the edge of the ribs, was made in the line of the fibres of the rectus abdominis, an inch and a half internal to the left nipple-line—viz., half an inch to the inner side of the linea alba. After the integument and fascia had been divided, the fibres of the rectus came into view, and were separated by the handle of the scalpel, and held apart by retractors till the peritoneum was reached. This was divided on a director, and the stomach readily found and recognised by its thick substantial coats and arrangement of vessels, and drawn well forwards. Two silk loops were inserted into the stomach at an interval of one-third of an inch apart at its most presenting part, and four silk sutures on either side, each traversing half an inch of the serous and muscular coats of the stomach, brought its wall into close contact with the margins of the wound, leaving exposed at the bottom of the wound a piece of stomach the size of a sixpence. The peritoneum was united with carbolised catgut sutures, and the margins of the wound carefully approximated above and below the loops in the stomach. A small piece of drainage tubing was placed on the lower part of the wound, and the whole covered in with salicylic silk and bandages. Antiseptic precautions were used throughout. The patient was fed every two hours with Slinger's suppositories, which proved of great value, and injections of peptonised milk and other foods alternately, all of which were retained. The rectum was washed out with warm water prior to each nutrient injection, which gave the patient great ease and comfort, and the bowels were relieved daily. The temperature kept at and below normal for a week after the operation, and there was no bad symptom throughout. The wound was dressed under the spray every second day; the drainage-tube was removed at

the second dressing. On the fifth day the operation was completed by an incision in the stomach wall between the loops, which were then removed. Previous to this the patient was given separately the two parts of the effervescing draught, the effervescence of which in the stomach assisted the operation by dilating that organ and bulging it forwards. A piece of gum elastic catheter (No. 9) was now inserted, some Benger's food syringed through, and the opening kept patent by the insertion of a piece of tent, which was removed in twenty-four hours. At first there was great leakage, the dressings—tenax, tissue, and flannel binders—being saturated at each feeding. But this slowly lessened, and the skin, which was extremely irritated and inflamed by contact with partly-digested foods, healed under the application of vaseline and zinc ointment. The wound filled up, until on Jan. 25th there was merely a round aperture for the insertion of Krohne's apparatus (Bryant). A tent has since been inserted for a few hours to dilate the aperture, which has a tendency to close. Digested foods, soup, beef-tea, eggs, wine, and whisky are administered every three or four hours to the extent of a pint each time, and there is no gastric discomfort. The bowels act daily with the warm water enema. The patient gains strength, sits up twice a day, and is only inconvenienced by the constant expectoration of saliva, mucus, &c. The gain in strength and comfort resulting from the operation is most marked and gratifying, and there can be no question that life has been considerably prolonged by it.

I have ventured to describe the case at this length because (1) the operation has been considered to be on its trial; (2) the books do not describe it as fully as the student and young practitioner desire; (3) because of one or two points in the operation now described which seem worthy of notice—viz., (*a*) mapping out the margins of the stomach before making the primary incision; (*b*) the advantages derived from making the incision parallel to the fibres of the rectus, lessening hæmorrhage, and providing, as has been pointed out, a sphincter for the opening subsequently; (*c*) and finally, in performing the second part of the operation—viz., the opening into the stomach cavity—it is, unless the stomach be distended, extremely easy to fail, from the mucous coat being so easily separable from the serous and muscular coats; this is obviated by the exhibition of the effervescing draught separately as described before proceeding to the completion of the operation.

Kirkburton.

A CASE OF ACTINOMYCOSIS.

By WILLIAM O'NEILL, M.D., M.R.C.P.,
HONORARY PHYSICIAN TO THE LINCOLN LUNATIC HOSPITAL, ETC.

IN November of last year Mr. S——, a farmer, fifty years of age, consulted me about a pustular eruption on the left wrist and forearm and a slight apparently glandular swelling under the right ear, both affections he had noticed in the early part of the preceding month. There were also four or five smaller swellings in the neighbourhood of the clavicles and one in the left axilla. As the patient was somewhat out of health, I thought the tumours might either be of a strumous character or might be owing to a cachectic state of the system from defective sanitation. The patient thought he was suffering from blood-poisoning, and suspected the water he had been drinking, but on investigation the water and drainage were found to be good. He was ordered a mixture containing iodine and arsenic, and as a local application for the eruption citrine ointment. In a few weeks the skin eruption had almost disappeared and the tumours were slowly diminishing in size, when in January of this year he was attacked with inflammation of the tonsils and an aphthous-looking state of the mouth. In February under suitable treatment the mouth was better, but two or three new enlargements had appeared, and some of the old ones had increased in size. The one below the ear was as large as a small hen's egg. It was smooth, nearly painless, elastic to the touch, and slightly movable. Under the chin there was a globular enlargement as big as a filbert, and another of about the same size on the back of the head. The patient was now ordered a mixture containing solution of perchloride of mercury and iodide of potassium, and an ointment of iodide of ammonium. In March the state of things was looking more favourable, when unfortunately severe bronchitis set in, which on its subsidence left matters much worse than before. The tumour in the angle of the neck had extended in all directions, more especially downwards. It had also suppurated, and two or three sinuses gave exit to a whitish purulent fluid, which frequently contained small yellowish particles. The sore generally presented a reddish granulating surface, but occasionally dark-coloured scabs would form on it. Several of the smaller tumours on the lower part of the neck had nearly disappeared, but the one under the chin was still large enough to be uncomfortable, and the tumour on the back of the head had become as big as a walnut, and although unulcerated, was so painful that he could hardly sleep on his back. A small swelling had also formed under the left ear. The irritation of the system produced by so many tumours caused an increase of temperature and a hastening of the pulse—however, not so much increase of temperature and frequency of pulse as might have been expected. At this stage of the disease the patient began to take a combination of iodide and bromide of ammonium, but a few weeks ago, seeing that most of the tumours, especially the one in the angle of the neck, continued to enlarge, and being in some doubt as to their exact nature, I advised him to go up to University College Hospital, with the object of having them removed either then or on some future day. Consequently, on June 4th Mr. Redman, a student friend of mine, showed the patient to Mr. A. E. Barker, who kindly examined him, and came almost to the conclusion that he was suffering from actinomycosis. Since the patient returned from London I have been able to find some of the micro-organisms which are supposed to be peculiar to the disease.

I believe it is the opinion of those who have studied the subject of actinomycosis that the malady is communicated from animals to man. There is a probability that the disease may have been thus conveyed in this instance, for a few weeks before the affection made its appearance in Mr. S—— he had been "dressing" calves affected with a disease which he called "ringworm." I have had a photograph taken of two young animals in which so-called "ringworm" is well marked. In these animals there are no lumps at present under the jaws, or in or about their mouths. Ringworm began in them, as well as in several others, by the hair falling off, a reddening or inflammation of the skin, and the formation of ash-coloured scabs, more or less thick, according to the severity of the disease in the part affected. The disease is caused by a fungus which can be destroyed by sulphur or by a mercurial preparation, notably by corrosive sublimate. Whether the fungus of the ringworm in these animals is the same as the parasite of actinomycosis, I am unable at present to say; but, if not identical, I am inclined to think that both parasites are closely allied.

Taking into consideration the source whence the infection of antinomycosis is derived, it will be seen that the disease must have presented itself from time immemorial, and the reason why it has been unrecognised and overlooked and has not been described as a substantive disease until the last few years, is most probably owing to its being confounded in certain of its stages with scrofulous and cancerous affections—with scrofula in its early stages, and with cancer in its ulcerated stages. That it is a serious complaint there cannot be much doubt, for it appears that one-half of the cases which have been published have died, and this serious result is not to be wondered at when authorities on the affection tell us that the disease may attack almost any organ in the body. The fungoid disease may have contaminated Mr. S—— first in the wrist, from the wrist it may have extended to the axilla, thence to the neck, and even the parasite may have had something to do with the causation of the bronchitis.

As to treatment, iodine, arsenic, and mercury have, I think, some power over the disease in its early stages, for the tumours, late in making their appearance, dispersed whilst the patient was taking these medicines, and even the large lumps, on account of their becoming smaller and more movable on one or two occasions, gave hope of their disappearing. After all, in a case of this kind, where actinomycosis appears in the shape of external tumours, the most expeditious and the best treatment would, I believe, be removal by surgical operation.

Lastly, I would remark that the history of the discovery of actinomycosis is very interesting. According to M. Bricon the parasite was first discovered by Italian veterinary

surgeons, one of whom, Rivolta, wrote about the disease in 1868. In Germany Bollinger rediscovered it in 1877, and gave it the name by which it is at present known. Israel was the first to describe a case of it in a man in 1878, but since then several cases of the disease have been published on the Continent and two or three in this country.

Lincoln.

A CASE OF

SEPARATION OF THE UPPER EPIPHYSIS OF THE LEFT FEMUR.

BY A. W. MAYO ROBSON, F.R.C.S.,

SURGEON TO THE LEEDS GENERAL INFIRMARY, LECTURER ON OPERATIVE SURGERY AT THE YORKSHIRE COLLEGE.

IN the article by Mr. H. Morris in Holmes' System of Surgery occurs the following passage:—"Several supposed examples of this accident have been recorded, but I agree with Mr. Holmes in thinking that they are not conclusive as to the real existence of this lesion," and again in the same page, "fractures of the neck of the femur are hardly known in childhood, and the upper epiphysis is so small and lies so completely within the hip-joint, that its disjunction is unknown, except perhaps in the fœtus." The case related below is certainly either a fracture through the neck of the femur or a separation of the upper epiphysis; I believe it to be the latter, and in this opinion I am supported by my colleagues at the Leeds Infirmary, to whom I showed the patient. The notes have been furnished by my dresser, Mr. Roper.

W. C——, aged five, was admitted in March, 1886, into the Leeds General Infirmary on account of lameness due to

shortening of the left lower extremity, with the history of having been thrown up four years previously by her uncle, who failed to catch her, letting her fall heavily on the left side. Beyond rest no treatment had been followed out, and the mother was unaware of any other accident having happened to the child, but she had noticed the limp to become more marked during the last few months.

The accompanying photograph, kindly taken for me by Mr. Barling, clearly shows the position of the deformed left limb as the patient stood. The signs on admission were as follows:—Marked limp on walking, the patient leaning to the left; well-marked eversion of the foot, which could, however, be brought parallel with the right without giving pain; ability to completely flex and extend the thigh. Measurement from the anterior superior spine of the ilium to the malleolus showed three-quarters of an inch of shortening on the left side, and from the same point to the lower border of the patella gave a like result, but the distance from the top of the great trochanter to the malleolus was the same on both sides. Nélaton's line showed the left great trochanter to be raised three-quarters of an inch, and Bryant's line was three-quarters of an inch shorter on the injured side. The folds of the buttocks were well marked. On flexing and rotating inwards the left femur the fingers could clearly feel the neck of the femur as far as the head, but the prominent part of the caput femoris was apparently in the acetabulum, and was not attached to the cervix. The muscles of the limb were well developed, and a thickened sole on the left boot almost abolished the limp.

Leeds.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Prœmium.

UNIVERSITY COLLEGE HOSPITAL.

IMPACTION OF A FOREIGN BODY IN THE ŒSOPHAGUS; LARYNGOTOMY; TRACHEOTOMY; RECOVERY; REMARKS.

(Under the care of Mr. CHRISTOPHER HEATH.)

THE following is one of a class of cases which not unfrequently present themselves in the casualty department of large hospitals, and in which the necessity for immediate interference is imperative. With a history such as that given, after exploration of the pharynx without the discovery of any foreign body, the indication is clearly the line of treatment adopted in this case, the completion of the diagnosis being left until the subsidence of the urgent symptoms. There are few conditions in which a more prompt action or greater self-reliance is required. For the following notes we are indebted to Mr. Hugh Armstrong, house-surgeon.

On May 22nd, W. S——, a boy aged twelve, was brought to University College Hospital casualty room by the father, with the history that while at dinner the boy had fallen back choking. When seen by the house-surgeon the patient was insensible, motionless, much cyanosed, and making strong inspiratory efforts that appeared to draw a small quantity of air into the lungs. Nothing could be felt at the back of the mouth; and, as the case was extremely urgent, laryngotomy was performed with a penknife, and the opening in the crico-thyroid membrane kept patent with a pair of sinus forceps. There was a little bleeding, chiefly venous, which subsided as soon as the asphyxial condition was relieved. The opening, however, did not seem sufficient, so tracheotomy was done, and a tube tied in, the cricoid cartilage not being divided. The boy quickly recovered consciousness, and in about a quarter of an hour was taken into a private ward, put under chloroform, and examined. Nothing could be felt in the fauces or pharynx with the finger. A No. 6 English catheter was then passed along the forefinger down the pharynx, and, when about two-thirds had disappeared, an obstruction was felt, beyond which the instrument would not pass; for it doubled up when moderate pressure was made. A full-sized instrument with a stylet in it was next tried. The obstruction was again felt, and, after somewhat firmer pressure, the catheter slipped on into the stomach. There was no blood on the end of the instrument when withdrawn. A feather was afterwards passed up the larynx through the tracheotomy opening, but no obstruction felt. The tube was replaced, a canopy arranged over the bed, and steam allowed to play under it. While recovering from chloroform the boy vomited a large piece of meat an inch and a half long, three-fourths of an inch broad, and about half an inch thick; and when quite conscious gave the house-surgeon to understand that the obstruction had disappeared. Milk and beef-tea were ordered. The temperature rose to 102° on the following evening, but never went higher. A piece of wet boracic lint was laid over the mouth of the tube, which was kept in for forty-eight hours. When this was withdrawn the wound was covered with wet lint, and by June 8th had completely closed. The boy's voice had regained its strength within a week later.

The after-treatment consisted in keeping the air of the room warm and moist, but the steam kettle was removed on the second day, when the temperature was 102°. No crepitation could be heard over any part of the chest, and the pulse respiration ratio was unaltered.

Remarks.—The exact cause of the asphyxia in this case is

doubtful. From the distance which the catheter was passed it may be assumed that the meat lay at the upper part of the œsophagus. But whether this was the position when the boy was brought to the hospital is questionable. Two views suggest themselves to explain the dyspnœa. Either that the fragment lay partly over the orifice of the larynx partly within the œsophagus, or that all lay behind the larynx and reflexly led to spasm of the glottis. The character of the dyspnœa accords better with the latter view, as it was distinctly stridulous. The boy's symptoms, however, were too urgent to allow time for fetching instruments, or an œsophageal bougie would have at once relieved his condition. Laryngotomy was selected on account of the rapidity with which it could be done, and the laryngeal character of the dyspnœa. But the opening was insufficient, so it was decided to perform tracheotomy. The question arose as to whether the tube should be removed after the meat had been vomited. But, considering the somewhat rough handling with the feather that the larynx had been subjected to, it was thought safer to leave it in. This course was justified next morning, for the boy was unable to breathe when the tube was plugged.

NEWCASTLE-ON-TYNE INFIRMARY.

A CASE OF SARCOMA OF THE INTERNAL POPLITEAL NERVE.

(Under the care of Dr. G. H. HUME.)

FOR the following notes we are indebted to Mr. H. Bramwell.

Joseph J——, aged forty, a miner, was admitted on Jan. 28th, 1886, complaining of a swelling behind the right knee and of shooting pains down the leg. He had noticed, four months since, that while at work he occasionally had shooting pains down the outer side of the leg; these pains had become more frequent, and could always be produced by forcibly bending or fully stretching the leg. There has also been sharp pain across the sole of the foot at the base of the toes. A few weeks ago he noticed a lump behind the knee. His health generally has not been so good as usual during the past year, and he has lost in that time a stone and a half in weight. He is a tall, well-developed, but lean man, with pale face and anxious expression. Towards the lower part of the right popliteal space in the median line is a tumour which extends downwards to the arch of the gastrocnemius. The swelling is under the deep fascia, being freely movable when the leg is flexed; fixed, or at most slightly movable laterally, when the leg is extended. Pressure on the tumour causes the shooting pains. The diagnosis arrived at was that the tumour was probably a sarcoma, and from the direction of the shooting pains it was believed to implicate the short saphenous, or possibly the internal popliteal nerve.

On Feb. 4th the tumour was cut down upon, and found to be a soft oval-shaped growth, extremely vascular, intimately connected with the fibres of the internal popliteal nerve, and having the short saphenous nerve stretched over it, the latter fact being that which had mainly given rise to the symptoms. As the growth had not acquired adhesions to adjacent structures, it was separated from the sheath of the vessels, and the internal popliteal nerve with which it was incorporated was cleared for a distance above and below. The nerve trunk was then divided, so as to remove with the growth a portion of healthy nerve at either end. The length of nerve removed, including the tumour, was three inches and a half. The wound healed slowly but without complication, and the man returned to his work as a miner.

Description of tumour.—The growth was encapsuled in the sheath of the nerve, and appeared defined even at the two ends; but there it could not be separated from the substance of the nerve on account of a portion of the nerve fibres passing through it. The bulk of the substance of the nerve lay behind. A longitudinal section of the growth had a coarsely fibrillated appearance; to the naked eye it consisted of strands of fibres pushed apart by soft, easily broken-down material. It was exceedingly vascular, large veins being visible underneath the capsule, and in the interior were one or two blood cavities filled with clot. The minute examination corresponded with this appearance. Masses of small round-celled growth lay between the implicated nerve fibres, and into this new growth numerous hæmorrhages had taken place. In the centre of the tumour a blood cavity three-eighteenths of an inch in length had thus been formed.

Remarks by Dr. HUME.—The interest of this case is two-fold. It is clear that with the further growth of the tumour, and the consequent expansion of the supporting nerve fibres, the tendency of the new cell material to break down under the pressure of the blood would be increased. Probably in no long time the tumour would have been thus converted mainly into a blood-containing cavity. Such hæmorrhages are, of course, produced by the rupture of bloodvessels, and if it chanced that a vessel of some size were opened into, the tumour would have at once become pulsatile and have closely simulated an aneurysm. In its position with reference to the popliteal artery the resemblance to aneurysm would have been very close, and correct diagnosis correspondingly difficult. The case therefore illustrates the manner in which sarcomatous tumours so frequently come to simulate aneurysm. It also illustrates one mode of production by that vague class of pathological formations referred to and described in surgical works under the name of blood cysts. Perhaps the best known of such cases is that related by Mr. Moore in the Medico-Chirurgical Transactions for 1886. In that case the cyst originated in the popliteal nerve, became adherent to surrounding parts, and in some portions was composed of "old tough lymph," which contained "small oval cells having indistinct nuclei." Anyone now reading Mr. Moore's narrative will be struck with the probability that the tumour was in reality a sarcoma. The case is further of interest as regards the degree of usefulness of the limb after division of its chief nerve trunk. The leg and foot, so far as cutaneous sensibility and muscular power are supplied by the posterior tibial nerve, were of necessity paralysed. Happily the muscular branches of the internal popliteal to the two heads of the gastrocnemius, being given off, as frequently happens, at quite the upper part of the ham, escaped division, so that some power of extending the foot at the ankle remained. Cutaneous sensibility of the outer aspect of the leg above the ankle and of the foot, which depends on the external saphenous nerve (tibial communicating), also remained, as that nerve had been merely stretched over the tumour and could be pushed aside. The muscles on the front of the leg and the peronei were not, of course, affected. On the whole, the impairment of walking power was wonderfully less than might have been expected, and did not amount to more than a slight limp. The insensibility of the sole of the foot hardly seemed to cause inconvenience; the leg still afforded a firm support, and the patient is now following his employment as a miner.

BRITISH MEDICAL ASSOCIATION.

FIFTY-FOURTH ANNUAL MEETING,

HELD AT BRIGHTON, 1886.

THE third general meeting, held on Thursday, Aug. 12th, of which a brief account was given in our last issue, was marked by some interesting proceedings—namely, the presentation of awards, and the invitation by delegates from the United States to members of the Association to attend the forthcoming International Congress.

Sir B. W. FOSTER, as President of the Council, related the circumstances under which the Council had this year decided to award the special Order of Merit instituted by the Association in 1877. The badge of that Order was a medal in gold, silver, or bronze, and it had only previously been thrice awarded. The first recipient was Dr. Davies of Swansea, who had heroically distinguished himself in saving several lives at a colliery disaster in South Wales. On the second occasion it was given to Surgeon-Major Reynolds, for his conduct at the terrible conflict at Rorke's Drift. The third award was made to Dr. W. Farr, whose life had been spent in the study of vital statistics, and in establishing a system of registration which had been adopted by all civilised communities. They now proposed to reward another kind of merit, which had never been recognised by the Association, and too little recognised by the world at large. There were services rendered to every body of men in their corporate capacity—services which developed

their power, and raised their social and professional status—services too often forgotten, but which left a lasting mark. The Medical Reform Committee was presided over by a gentleman who never lost heart or courage, or failed in industry. In the last Parliament a Bill was introduced which, though imperfect in many of its details, not rising to the level which they wished, yet contained two of the principles for which he had fought so earnestly and well. One of these principles was that every medical man should be thoroughly qualified before he was placed on the Register, and the other was the recognition of their right to be represented on the General Medical Council. For years they had been fighting this battle, and had at last in this Bill got the principle recognised, although not to the full extent which the medical profession had a right to claim.

The PRESIDENT (Dr. Withers Moore) then invested Dr. Waters with the gold medal for distinguished merit of the British Medical Association, and said that he felt very proud to be the instrument of conferring upon him this great honour, which he hoped he would many years enjoy.

Dr. E. WATERS, who was loudly applauded, said he need not say with what feelings he appeared before them. He appreciated the high distinction conferred upon him—a distinction which, of all others, he could have desired to crown his life, and which he trusted he should always prove himself not unworthy of. He had always been, and would always be, a devoted, loyal member of the British Medical Association, from the time when, as a stranger, he had settled in Chester, and had found in the Lancashire and Cheshire Branch life-long friends. He said when, in 1859, he was chosen President of that Branch, he desired and cared comparatively little for the opinion of the general public provided he could only win the esteem and regard of his professional brethren. Subsequently he was elected to the high post of President of the Association, and thenceforth determined to discharge zealously any duty that the Association might impose upon him. He briefly referred to the action of the Medical Reform Committee, and said, in conclusion, that the reward which he had earned at the hands of a body representing 12,000 medical men exceeded his wildest imaginings. He regarded it as one of the greatest treasures that he could have obtained, and he disregarded all else in comparison with what had been conferred upon him.

Sir B. W. FOSTER then announced that the prize founded by the late Dr. A. P. Stewart for the best work done in contagious diseases, had been awarded to Dr. Robert Cory, whose self-sacrificing inquiry into the subject was well known. He also announced that the Middlemore Prize in Ophthalmology had been awarded to Mr. George Berry and Mr. Adams Frost.

The American delegates were then introduced—viz., Drs. Davis (Chicago), Pancoast (Philadelphia), Shoemaker (Philadelphia), Brodie (Detroit), Gordon (Portland), Wylie (New York), Earle (Chicago), Romsey (Michigan), Hitchcock (Kalamagoo), and Peck (Devonport, Iowa).

Dr. N. S. DAVIS commenced by returning thanks for the opportunity afforded them to address the meeting, and for all the courtesies they had received. He related the steps that had been taken to promote the meeting of the ninth International Congress in Washington next year, from Sept. 5th to the 13th, and said that the idea of inviting the Congress to the United States had originated with the late Samuel D. Gross and Austin Flint, sen.—those Nestors in surgery and medicine, who had both gone to their rest. Dr. Flint, at the meeting of the American Medical Association in 1884, had reminded them that theirs was the only organisation representing the whole profession in America, and that steps should be taken to invite the Congress. The invitation was sent, and, after inevitable differences, an organisation had been formed representative of all the profession in every State, as well as the army and navy departments. English, French, and German would be the official languages, and four secretaries had been appointed to each of the seventeen sections. He asked the members of the English profession to come in force, and promised them a welcome as cordial as Americans know how to give. An influential local reception committee had been appointed; and with respect to transit, he begged the members of the British Medical Association to join in exerting their influence to induce the steamship companies to carry members across the Atlantic at reduced rates.

Drs. BRODIE and PANCOAST also briefly addressed the meeting, and repeated the assurances of a hearty and cordial welcome to all who attended the Congress.

A hearty vote of thanks to the delegates was then passed.

Mr. J. R. HUMPHREYS (Shrewsbury) then brought forward a memorial to the Government, proposed by the Shropshire Branch, with reference to the conferment of peerages upon medical men; but the motion, on being put to a division, in a greatly attenuated meeting, was negatived.

The fourth general meeting was held on Friday morning, Aug. 13th, when an address on Public Medicine was delivered by Dr. Mapother of Belfast.

On the conclusion of the address, a vote of thanks to Dr. Mapother was moved by Dr. Taaffe, seconded by Surgeon-General Cornish, and unanimously carried.

Dr. GRANT (Ottawa) expressed the pleasure with which he had listened to the address, and took occasion to return thanks for the hospitality awarded to the American, colonial, and foreign visitors. He trusted that at the International Congress they would see a large number of the members of the British Medical Association. As representative of Canada, he warmly thanked Sir B. W. Foster and those associated with him in the House of Commons for the efforts successfully made in the cause of medical reform.

The concluding general meeting was held in the afternoon of Friday, the 13th inst.

Dr. WATERS moved the adoption of the report of the Medical Reform Committee. He said that in the Medical Act of 1858 the chief points gained were the foundation of a Medical Council, the establishment of reciprocity, and the formation of a Medical Register. In a few years imperfections in the Act became manifest, and the Association took steps to secure its amendment in the way of direct representation of the profession on the Medical Council. The struggle had lasted twenty-five years, and they had now gained large concessions. Dr. Waters said that he did not intend to become a candidate for a seat on the Council, but it would be for the Association to select men who would do them credit and who would be recognised by the Council as able men.

Dr. GRIMSHAW, Registrar-General of Ireland, seconded the motion. He had been a member of the committee until his official duties necessitated his retirement.

The report was then unanimously adopted, as was also the report of the Parliamentary Bills Committee.

Mr. SIBLEY moved the adoption of the report of the Scientific Grants Committee. Grants had been made during the past year to Drs. V. D. Harris, Noel Paton, W. D. Halliburton, Professor V. Horsley, Drs. A. Money, D. Williams, S. H. Martin, and T. Cash, Messrs. R. Stockman, G. A. Atkinson, Drs. Brown, W. Hunter, and P. M. Chapman. The Research Scholarships had been held by Mr. Watson Cheyne and Dr. A. Waller. Mr. Sibley said that the Association voted each year the sum of £600 for scientific research; of this sum £300 was given in divided grants to aid investigators, and the selection was made with great care. The other moiety was divided into two Research Scholarships—each tenable for two years.—Dr. CHADWICK seconded the motion, which was adopted.

Dr. NORMAN KERR moved the adoption of the report of the Habitual Drunkards Committee, and pointed out that the need for further legislation was imperative.—Dr. JACOB (Dublin) seconded the motion, which was carried.

Dr. BRIDGWATER moved the adoption of the report of the Collective Investigation Committee.—Mr. JONES MORRIS seconded the motion, which was carried.

On the motion of Sir B. W. FOSTER, seconded by Dr. B. O'CONNOR, an alteration in the bye-laws, proposed by Dr. Ward Cousins, and referred to the Council, relating to the representation of distinct branches, was put to the meeting and declared carried.

Sir W. FOSTER then moved the election as honorary members of Dr. N. S. Davis (Chicago), Dr. J. S. Billings (Washington), Dr. J. A. Grant (Ottawa), and Dr. W. H. Hingston (Montreal).—The motion was seconded by the PRESIDENT, and carried with applause.

Drs. DAVIS and HINGSTON briefly returned thanks.

The rest of the proceedings consisted in votes of thanks to the Mayor of Brighton for his hospitality and grand reception, moved by the PRESIDENT, seconded by Mr. WHEELHOUSE; to the Mayor and Corporation for the free use of the Royal Pavilion, Dome, and Corn Exchange, moved by Prof. GRIKIE (Toronto), seconded by D. W. STRANGE; to the President of the Association and members of the South-eastern Branch for their splendid reception on the 11th, moved by

Sir T. CRAWFORD, seconded by Dr. CUMING; to Sir Julian Goldsmid for his invitation to a garden party at St. Ann's-hills; to the managers of the New Club and the committee of the Sailing Club; to the directors of the Aquarium and West Pier; to Mr. E. T. Booth for permission to visit the Bird Museum; to Mr. Halliwell Phillips for his invitation to inspect his Shakesperian relics; to the Executive Committee; to the Duke of Norfolk and Lord and Lady Brassey for invitations to Arundel and Normanhurst.

Dr. CHADWICK proposed a vote of thanks to the President, which was seconded by Sir B. W. Foster and acknowledged by Dr. Withers Moore, who took occasion to correct the misapprehension of his address by his critics. His opinion was that woman had her special vocation, in which she was far superior to man. She was secure in her present position; she would not be secure if she tried to change it. He desired to express his deep sense of the kindness of the members of the Association.

THE SECTIONS.

MEDICINE.

The second meeting of this Section was held in the Music Room of the Royal Pavilion on Thursday, Aug. 12th. Dr. BROADBENT, President of the Section, delivered his address. The subject selected was the Remote Effects of Remedies. After referring to the well-known after-effects of alcohol, he alluded to the mental and bodily derangement induced by eating opium, the miserable irresolution and wretchedness of the man who habitually resorts to chloral, and the childish dementia brought on by the prolonged use of the bromides. He thought that coca is already beginning to claim its victims, who gradually develop an excitement which becomes maniacal or an exaltation like that of general paralysis. The subject of gout was given as illustrating the remote effect of remedies. The effect produced by continued and excessive use of colchicum and other drugs having a similar action, and the consequences following the neglect of such treatment which will clear the system of the gout poison, were especially drawn attention to. With reference to the latter he urged: "It can scarcely be too often repeated that all the effects upon the arteries on the one hand and the heart on the other associated with contracted granular kidney—viz, arterial degeneration, cerebral hæmorrhage, aneurysm and dilatation of the left ventricle, and valvular disease—are just as commonly produced independently of kidney disease by high pressure in the arterial system due to other causes; and such pressure in an extreme degree may be induced prematurely by the means taken to keep down gout." Another cause of injuriously high arterial tension was the "Banting" treatment of obesity as understood by the public. In this the non-nitrogenous sugars and starches were taken very sparingly—the amount of fluid taken into the system was reduced as much as possible, and the subject lived on a highly nitrogenous diet. The imperfectly oxidised nitrogenised waste present in the blood provoked resistance in the capillaries, and generated tension in the arteries. Exercise and an adequate supply of water, which were generally omitted, were essential to active metabolism and the working off of impurities. Another example of injury given was that furnished in asthma. Certain drugs afford alleviation of symptoms, but many popular powders contain powerful alkaloids, which produce after-effects on the nervous and vascular systems. "When we see the stupefied mental condition and the congested face and eyes, and note the large, weak, sluggish pulse, showing paralysis of the arterial walls, it is clear that such effects cannot be indefinitely repeated with impunity." "The right ventricle loses its tone like the muscular coats of the arteries, and, instead of becoming hypertrophied, yields to the resistance in the pulmonary circulation, and is dilated, finally giving rise to systemic venous stasis and dropsy." A striking illustration of his subject was given by the too careful and restricted diet of certain forms of so-called indigestion. One kind of food after another was left off, but still with the same discomfort and a sense of repletion after food. The appetite being wanting, a starvation point becomes almost reached. Instances of severe neuralgia, spurious attacks of angina pectoris, and serious debility, were related as having followed this line of treatment. Again, in the winter indigestion of women and weakly men, the functional energy of the stomach required stimulating by extra food, such as beef-tea, egg-flip, stimulants at meals, and tonics. What was wanted in winter indigestion was protection from the depressing influence of cold or the means of neutralising it.

A vote of thanks was accorded to the President for his address.

Dr. ORD followed with a paper on the Remote Effects of Gall-stones. In the discussion succeeding, Sir Peter Ede, Dr. Clifford Allbutt, and Professor Charcot took part. Papers on Mental Symptoms with Locomotor Ataxy, by Dr. SAVAGE; on Functional Albuminuria, by Dr. RALFE; and on the Relationship of Urea to certain Diseased Processes, by Dr. OLIVER, subsequently followed.

The third meeting of this Section was held on Friday, Aug. 13th. Dr. R. CROCKER demonstrated the Removal of Hair by Electrolysis. A paper was next contributed by Dr. MANTLE on the Etiology of Rheumatism, considered from a Bacterial point of view. Numerous specimens of micro-organisms found in acute and chronic rheumatism were shown. Inoculations had been made from the serum of joints and also from the blood taken under the usual antiseptic precautions. Cultivation shows bacilli having a peculiar mode of growth, preferring the surface and presenting a brown reticulated scum. The organism was said to grow best in an acid medium, and to stain well with Gram's method. These organisms had been found in over forty cases.—Dr. HAYCRAFT followed with two papers, the first with a demonstration on a New Method of Estimating Uric Acid, and the second on Some Points in the Coagulation of the Blood. Secretion from the leech was found to prevent coagulation, and when injected into animals produced temporary hæmophilia, for this bleeding continued from the smallest capillaries, but could be stopped by styptics such as perchloride of iron. There were also found extravasations within the body. This and other diseased conditions were thought to indicate that the coagulation of the blood was a necessary and temporary preventive of bleeding, so as to give time for the formation of new tissue. In hæmophilia, although time may be given for formation of healing tissue, bleeding may still continue, indicating probably diseased conditions of the connective tissue elements of the body. The author much desired specimens of hæmophilia blood, and the tissues of a wound preserved in alcohol. Other papers followed.

SURGERY.

On Thursday, Aug. 12th (Mr. Erichsen, F.R.S., President of the Section, in the chair), a series of papers on the Surgical Treatment of Hepatic Disease was read. The papers dealt less with general principles than with individual cases, and hence no adequate or satisfactory discussion took place. Dr. George Harley discussed and advocated hepatic phlebotomy and puncture in hypertrophic congestion. Mr. J. K. Thornton related some cases. Mr. Lawson Tait's contribution was by far the most important; this included seven cases of exploratory incision for a variety of conditions, including abscess, tumours of the liver and gall-bladder, and of cancer, with one death; thirteen cases of hepatotomy, chiefly for hydatids, without a death; and thirty cases of cholecystotomy, with three deaths. Mr. Willett related a case of cholecystotomy, and Mr. Howard Marsh a case of abscess of the liver opened by free incision. Mr. Adams read a paper on the Treatment of Congenital Displacement, so-called Congenital Dislocation, of the Hip-joint by long-continued recumbency and extension. The recumbency should not be less than one year, and might be continued under favourable circumstances for two years, or even longer. It was necessary to sustain the general health by horizontal gymnastics, &c. Mr. Ernst demonstrated a new and very ingenious extension couch, which he had constructed, at Mr. Adams's suggestion, for the effectual carrying out of this plan of treatment. Mr. Edmund Owen read a paper on Psoas Abscess, when and how to open it.

On Friday (13th inst.) what may truly be called *the* surgical paper of the meeting was read by Mr. VICTOR HORSLEY, entitled "Advances in the Surgery of the Central Nervous System." In introducing the subject, the author laid special weight on the fact that all the advantages, both scientific and operative, claimed in his paper were the results of lessons learned from experiments on monkeys. It had been said that monkeys were not quite like human beings, but this was not correct from a surgical standpoint. Time did not allow of any elaborate details, so the author contented

himself with a brief recapitulation of the chief facts of the case. He referred to (1) the preparation of the patient for the operation, which consisted in shaving the scalp, and then *thoroughly* cleansing the head; (2) anæsthesia—for this he preferred chloroform, previously giving subcutaneously a quarter of a grain of morphia; the morphia produced contraction of the arterioles of the brain, and there was consequently less oozing, and a less amount of chloroform sufficed; (3) strict Listerism, pure and simple—the spray was used, and the usual gauze dressings; (4) the line of incision—instead of the old-fashioned crucial flaps, a semilunar was advocated, as being easily displaced out of the way of the later steps in the operation, as less likely to suffer from interference with the blood circulation, and therefore with the vitality of the flap; (5) the use of large trephines—it was so difficult to hit the exact spot, and yet so necessary to have ample room, that the old small trephines were comparatively useless; (6) Macewen's plan of replacing the bone—the bone after removal was preserved in hot carbolised sponges, cut up into small pieces and placed in the opening between the dura mater and the scalp. The brain being exposed, the first question to decide was whether it bulged into the opening or not—normal brain, Mr. Horsley said, never bulges at first; if an operation lasted an hour or more some bulging became evident. If the brain bulged at first, it was presumptive evidence of the presence of a tumour; a yellowish colour and venous congestion were likewise suggestive points. The lesion being found, how was it to be treated? The use of the actual cautery led to secondary troubles, so he used a knife and excised what had to be removed, which must be all that was necessary, but not one bit more. There would doubtless be some considerable oozing at first; if so, a sponge should be pressed into the incision. The tumour or diseased part having been removed, it was desirable to close the wound as quickly and as accurately as possible; primary union of the skin flap was almost essential to success. Drainage was required for twenty-four hours only; if more serum collected, a small probe should be passed in to let it out, but a little tension did no harm, as it kept the brain matter in its place until cicatrisation was complete. Hernia cerebri only occurred as the result of decomposition. Mr. Horsley then demonstrated his three patients: they had quite recovered from the operation, and were well enough to travel to Brighton and be exhibited to the meeting. The main clinical symptoms were epileptiform fits, two of the cases following injury with subsequent scarring of the convolutions; the third case was one of tumour, which was accurately localised by the manner in which the fits (to which it gave rise) invariably commenced.

Professor CHARCOT (Paris) congratulated Mr. Horsley on his brilliant success. The patients, he said, might be taken (1) as new proofs of the value and legitimate use of animals for purposes of experimentation, and (2) as confirmation of the doctrines of localisation of the functions of the brain.

Dr. HUGHLINGS-JACKSON also congratulated the author on his admirable success. He thought that every person with epileptiform seizures was the subject of a very localised lesion of some kind, either a tumour or otherwise. If the aura were very localised and constant, it was in favour of tumour. He would, however, recommend an operation even if a tumour were not present. He had changed his views with regard to double optic neuritis, for tumours might exist without it. Mr. Horsley had produced artificially in monkeys fits similar to those from which these patients had been suffering, showing thus the accuracy of the present views on the function of the convolutions. He thought in removing the tumour that the adjoining portions of the brain ought to be removed, for the tumour produced fits by altering that portion of the brain on which it was seated. He would cut out too much rather than too little. Unfortunately there would occur cases with more than one tumour in the brain, or with more than one tumour on the same side of the brain.

Mr. HORSLEY then exhibited photographs, illuminated by limelight, of the parts of the brain injured and removed. A vote of thanks was carried by acclamation on its termination.

Dr. STEAVENSON and Mr. BRUCE CLARKE read papers on the employment of Electricity in the Treatment of Diseases of the Urinary Organs. Dr. Steavenson dealt chiefly with the scientific aspect of electrolysis, while Mr. Clarke referred to the practical side of the question.

The PRESIDENT remarked on the variety of the diseases referred to, and expressed himself unable to understand how one and the same remedy could favourably affect such diverse conditions.

Mr. VINCENT JACKSON also took part in the discussion, after which the authors suitably replied.

Mr. REGINALD HARRISON read a paper on the Treatment of Urethral Stricture by Internal and External Urethrotomy combined. He first entered into a consideration of the causes of relapse, the formation of cicatricial tissue, explaining his own views that this was largely increased by the passage of urine over the cut surface before it had had time to heal. Hence his argument was that after the stricture had been cut, an opening into the bladder through the perineum should be made simultaneously, by means of which the bladder could be efficiently drained; further, another tube should be passed from the perineum through the penis, in order to keep open the strictured part while cicatrisation was taking place.

Dr. PANCOAST (New York) advocated multiple incisions through the mucous membrane and submucous tissue, as giving better results than a single one.

Dr. WARD COUSINS and Mr. WHITEHEAD also took part in the discussion. Several ingenious urethrotomes were exhibited.

Papers were also read by Mr. F. CHURCHILL, on the Multiple Causation and the Immediate Treatment of Congenital Club-foot; by Sir WM. STOKES, on Acute Myxœdema following Thyroidectomy; by Mr. E. SMITH, on Obscure Disease of the Spine; by Mr. WHITEHEAD, on the Treatment of Hæmorrhoids by Excision, &c.

PATHOLOGY.

At the meeting of this Section on Thursday, Aug. 12th,

Mr. T. HOLMES opened a discussion upon Aneurysm. The cause of aneurysm was defined as weakening of the vessel wall so that it yields to the blood-pressure. The change in the wall may be due to degeneration of coats, to laceration of the intima, to ulceration from without (of which an instance was mentioned). The degenerative changes include the atheromatous and syphilitic. There is no question that the subjects of aneurysm often have syphilis. Syphilitic subjects are generally persons broken down in health and liable to arterial disease. Syphilis affects arteries in two ways: either by thickening of the intima or by gummata in the external coats, thus rendering the vessel prone to aneurysm; but, practically, this seldom occurs. Heubner, in fifty cases of syphilitic arteritis, only found aneurysm in one. Again, the syphilitic process generally attacks the smaller arteries, atheroma the larger; the former leads to obliteration of the vessel, the latter to weakening and dilatation. Many cases of arterial disease in syphilitic subjects are alleged to be of a syphilitic nature, but there is often no direct proof of this. The true syphilitic degeneration of arteries rarely leads to aneurysm. The statistical argument is unreliable. Iodide of potassium, in Mr. Holmes's experience, is of little use in aneurysm, and certainly cannot owe its effect to its antisyphilitic action. Complete rest and careful diet are always beneficial, and in exceptional cases may effect a cure. The typical form of aneurysms produced by the giving way of one side of the vessel has been described by Syme as common to all aneurysms; but there are other forms—as fusiform &c.—where there is more than one opening. The relations between the vessel and aneurysm were illustrated by drawings—(1) single opening; (2) two openings at some distance from each other; and (3) where artery opens into and out of the aneurysm. The aneurysmal sac is a living tissue; the rapidity with which the sac sometimes shrinks must be due to vital changes, to which also are owing the alterations in shape. The treatment by introduction of foreign bodies or electrolysis is only applicable when nothing else can be applied, because of the risk of setting up inflammatory changes in the sac. Professor Loreta's case was mentioned, where the sac had contracted and consolidated after introduction of wire; death was due to rupture at the junction of the sac and vessel. Dr. Cayley and Mr. Hulke's case and Mr. Bryant's case were also mentioned. This form of cure (by impaction of clot) is also produced by Esmarch's bandage, the sac rapidly contracting. In manipulation the cure is sought almost wholly by impaction of clot; and the same thing occurs in rapid flexion. These methods have dangers of their own in injury to the walls of the sac. The absence of aneurysmal bruit is of evil augury, as showing there is no

proper mouth to the sac. The nature and direction of the growth of an aneurysm are of importance as indicating the line of treatment; this is especially seen in thoracic or innominate aneurysm pressing on the trachea or œsophagus. Cases were described where the detachment and impaction of clot at the mouth of the sac had given rise to coagulation within the sac, and these were contrasted with a case of distal ligature, when the same result ensued. There are cases, especially of aortic aneurysm, where danger may be due to growth of aneurysm in one or other direction, and where consolidation in these parts may be effected, and thus a partial cure with relief to symptoms obtained.

Mr. BARWELL agreed as to the non-syphilitic character of aneurysm, especially of the thoracic and abdominal varieties. He showed a specimen of aortic aneurysm, diagnosed as on the second part of the aorta, which projected on the left side of the sternum, having previously presented on the right. The patient was treated by rest, belladonna, &c.; but iodide of potassium increased his symptoms. Pressure on the root of the left lung was causing serious symptoms, and the patient begged that something might be done. An ivory cannula was introduced into the sac, and about 12 ft. of fine steel wire passed in, and an electric current was sent through the wire for seventy minutes. About four hours later the tumour began to consolidate. On the fourth day the saccule on the right side increased. Death took place partly from rupture of this sac and partly from the pressure by the main tumour on the root of the left lung. The wire was found to be completely covered with fibrine. In electrolysis, as a rule, the influence is not sufficiently diffused; and in introduction of wire the coagulum is too soft; a combination of the methods seemed to remedy these objections.

Mr. J. C. SYMONDS alluded to aneurysm due to external inflammation, mentioning a case which occurred in an amputated stump, which had become inflamed, and had led to softening of the vessel wall. He also mentioned a case where multiple aneurysm followed upon contusion of an artery, and the limb had to be amputated. In phthisis, pulmonary aneurysm owns a like cause. Probably secondary hæmorrhage from stumps is due to the same condition.

Dr. GOODRIDGE (Bath) read a paper on a case of large Abdominal Aneurysm in a man aged thirty-eight, who was attacked with severe pain in the left knee and swelling of the leg, extending afterwards to the thigh. A tense tumour occupied the left half of the abdomen; no bruit was audible. Six months previously he had been knocked down by a truck. After death, which occurred one month from the onset of symptoms, the tumour was found to be an aneurysm springing from the left side of the aorta, just above the bifurcation; it contained much clot and had eroded some of the lumbar vertebræ, and extended below Poupart's ligament, comprising the iliac vessels. It had ruptured into the peritoneal cavity, but by a very small opening; the fatal issue was also attended by pleural effusion.

Mr. HOLMES mentioned two cases of abdominal aneurysm which were unattended by the usual symptoms. One was a case under Sir P. Hewett, the tumour being diagnosed as a psoas abscess. The other was a case where there was fixed pain in the back; but after a time a tumour began to form; there was no bruit or pulsation. Death occurred suddenly, and a ruptured abdominal aneurysm was found.

The PRESIDENT (Dr. Dreschfeld) said the etiology of aneurysm is still very obscure; an atheromatous artery will withstand considerable strain. Again, aneurysm is very rare in Germany as compared with this country. As to treatment, one must not draw conclusions from a few successful cases. A case under Dr. Simpson was treated by electrolysis; after death it was found there were two aneurysms, one of which had been untreated and had undergone spontaneous cure; the other, which had been treated, still contained fluid blood. The introduction of wire was more likely to lead to consolidation. Fibrine ferment had been injected in one case at Manchester, but the clot formed was very firm and portions of it were wasted away and caused death by embolism.

Mr. BARWELL related a case of Upward Dislocation of the Sternal End of the Clavicle—a very rare form of injury. There was but little pain, and the movements of the arm were very slightly affected.

Dr. CHAFFEY read a paper upon Fibrinous Deposits within the Heart in Diphtheria and in some other diseases of children. The results of about 200 post-mortems on children dying from diseases of all kinds proved that out of fourteen cases of phthisis, four showed considerable fibrinous deposits, of which two were cystiform, whilst in the remaining ten cases fibrine was either absent or present in small amount. In tuberculosis (including tubercular meningitis, but excluding phthisis) three only, out of a total of thirty-three, presented fibrinous deposits of any size; very marked fatty changes in the muscular walls were present in two of these three cases. Of twenty-three post-mortems on diphtheria cases more than one-half showed marked fibrinous deposits. They were situated chiefly in the right cavities, though to some extent the left cavities suffered also in most cases. In seven of the twenty-three, the right cavities were nearly filled with firm decolorised fibrine. A few other cases presented well-marked fibrinous deposits—viz., two of morbus coxæ, where death resulted a few days after amputation at the hip-joint; one case of osteotomy of the femora; one of tracheotomy for papilloma of the larynx; one case of acute and two of chronic tubular nephritis; two out of seven cases of diphtheritic paralysis; and one case each of simple purulent meningitis, otitis with pneumonia, pyelo-nephritis, and diabetes mellitus. There were also two cases of morbus cordis with old fibrinous deposit, and one of adherent pericardium with softening fibrinous deposit in the right auricular appendix giving rise to pneumonia. (Mounted specimens were shown illustrating deposits of fibrine, some of which almost filled the right cavities of the heart.)

Dr. COUPLAND confirmed, from his experience, the comparative frequency of cardiac thrombosis in diphtheria, to which cause was often owing the sudden death, frequently attributed to cardiac paralysis, which occurred in diphtheria. It mostly happened after the local diphtheritic symptoms had passed away, and was due, as Dr. Chaffey said, to weakening of the heart walls by fatty degeneration, and sometimes to interstitial myocarditis, as in a case under Dr. Coupland's care. Leyden had described diphtheritic myocarditis, and detected micrococci in the inflammatory exudation.

Dr. WOODHEAD (Edinburgh) said that these coagula occur in very many conditions in children, especially on the right side of the heart. They are not uncommon in specific inflammatory conditions, as in scarlet fever, tubercle, and in catarrhal pneumonia. There is almost invariably cloudy swelling, or interstitial inflammation, or fatty degeneration. This coagulation commences on the right side and afterwards occurs in the left cavities.

The PRESIDENT confirmed what had been said, remarking that acute dilatation of the heart, due to inflammatory or degenerative changes, was a frequent result of specific poisons. Venesection should be tried in these cases of acute thrombosis, especially in adults.

At the meeting of this Section on Friday, August 13th, Dr. STURGES opened a discussion upon the Etiology of Pneumonia. He said that in the course of an inquiry into the subject by the Collective Investigation Committee, the opinion of a large body of the profession was obtained. The pneumonia in question was that form of acute lobar pneumonia occurring suddenly, running a short definite course, and with recovery in the large majority of cases, which is a disease *within* the lung rather than *of* the lung. Therefore the idea gained from post-mortem inspection is incomplete. The causes of pneumonia are now admitted to be more numerous than supposed by former authorites. There is nothing more instructive or striking than an attack of the malady to which there is no parallel in other forms of disease. There has been a prevalence of pneumonia during the past spring, which has been characterised by exceptional weather—prolonged cold and easterly winds; when the milder weather came then pneumonia became less frequent, so that pneumonia was "caught" and prevailed like ordinary catarrh. This is the most frequent form of acute lobar pneumonia due to chill, a form which by adopting modern theories we are apt to forget. There is the pneumonia of alcholic excess, which post mortem is the same as that due to chill. Does chill play any part at all in such a case? The patient may not be exposed to chill, and the conclusion is that alcohol is as much a cause of pneumonia as chill. Again, there is sufficient evidence that "sewer-gas poisoning" causes pneumonia, and in many cases totally apart from the prevalence of cold weather. Besides the alcoholic and pythogenic form, there is another, which is preceded for some time by ill-defined symptoms of gastro-intestinal disorder, especially in children, the acute

pneumonia being, as it were, the final effect of the poison, much as in gout a period of deranged health will culminate in an attack of acute gout. There is a near connexion between privation and pneumonia, and that apart from exposure and alcohol—e.g., in the Madras famine one in five died from pneumonia. Over-work, fatigue, and mental depression favour the advent of pneumonia, and such cases have a gravity special to themselves. So that pneumonia as a local disease must be replaced by the notion that it is only part of a wider disorder. It may be that in rare instances pneumonia, like diphtheria, takes on contagious characters—a recent paper by Dr. Bruce confirms this strongly—by the occurrence in families and the presence of micro-organisms. Dr. Bruce admits that this infection is rare, and epidemic prevalence is not proof of infection. If pneumonia be conveyable from person to person, it ought to show itself in hospital wards; but Dr. Sturges cannot find a single instance of this. There is less positive evidence of contagion as a cause than of the others enumerated; and is it necessary ever to involve contagion to explain the disease? In a family there is not only a general tendency, but there are added fatigue, mental depression, and often exposure by the graveside—all causes which may explain multiple pneumonia in families, apart from any epidemic influence. The points he raised for discussion were—What are the exciting causes of simple pneumonia? Is there any evidence of the conveyance of the disease from one to another? How are predisposing distinguished from exciting causes? and what is the proper place of this idiopathic pneumonia in nosology.

Dr. DOUGLAS POWELL in most points agreed with Dr. Sturges. Some would say that the causes of pneumonia, instead of being more numerous, are now reduced to one—viz., the introduction of the pneumococcus—no matter whether the individual be subjected to chill, alcoholism, &c. No one familiar with Friedländer's researches can doubt for a moment the existence of an organism in all cases of pneumonia, which can be cultivated and reintroduced into certain animals, which thereby become attacked with pneumonia. In a series of eighteen consecutive cases of pneumonia recently observed, Mr. Leopold Hudson had examined the sputa, and in every instance had found this micro-organism. [Photographs by Mr. Crookshank and specimens of cultures were shown.] Most of these cases were typical ones, but not all. One was an apex case in a drunkard; in another the pneumonia supervened in chronic lung-disease. In another patient, after an obscure illness of twenty-one days before admission, the signs of pneumonia developed; and, lastly, there was a case of a girl who was attacked after exposure to cold, the course of the disease being marked by hectic, and now passing into phthisis, although the bacillus tuberculosis had not yet been detected. In all these varieties the coccus was present, so that in what clinically are regarded as different forms the characteristic micro-organism is to be found. Any hope that one might have of distinguishing septic cases by this test is therefore disappointed. Is it possible that these organisms are of different kinds? The researches into micro-organisms of pneumonia have been too uniformly successful for them to be the cause of the disease. Evidence is accumulating which tends to show that we are teeming with organisms, and that when certain diseases arise a kind of culture goes on of what are as yet indifferent organisms which converts them into specific forms, which may propagate the disease. He would therefore regard these organisms as rather epiphytic than as truly pathogenic or causative.

Dr. CHURTON (Leeds) had in post-mortem examination found pulmonary œdema very common, but had only twice met with distinct evidence of pneumonic exudation in such cases, where, as a rule, the alveolar walls look perfectly healthy. Whatever be the cause of pneumonia, the products are the same, and it would be inconceivable that only one cause should produce this result. The damaged lung may be the soil in which the pneumococci thrive, and they in their turn irritate the tissue, giving rise to inflammatory exudation. Pulmonary œdema is always most marked in the upper lobe. He would admit as exciting causes of pneumonia not only the pneumococcus but many other causes; and it is difficult to explain the selection of one part of the lung rather than another. As to contagion, Dr. Churton had never seen pneumonia spread in a hospital ward, or even in the most ill-ventilated apartments. The prognosis depends on the condition of the patient before he is attacked.

Dr. HOLLIS (Brighton) said that if the pneumococcus is invariably present, it more or less decides the matter as regards the exciting cause. If it be hereafter shown that in the pneumonia of typhoid fever, or in that which occurs by extension from other parts, the pneumococcus occurs, he would suppose it to be the active cause. As to the clinical conditions, we have to treat different forms of the disease.

Surgeon-Major BLACK gave his experience in the army. Sometimes the pneumonia would run through a regiment after fatigue, chill, and exposure; and yet such cases were quite unconnected with infection. He also cited cases of pneumonia due to insufficient clothing and chilling, with inactive circulation, as in people who sit in public gardens listening to music on chilly evenings, and too lightly clad. He therefore thought it indisputable that pneumonia could be directly produced by chilling of the surface of the body.

Dr. COUPLAND remarked that since the pneumococcus had answered to the tests required to establish its pathogenic character, the whole question of the precise relations of bacteria to specific diseases must depend on the solution of the problem as regards pneumonia. Moreover, the clinical course of acute lobar pneumonia was very much allied to that exhibited by other specific diseases which are now equally claimed to be bacterial: e.g., facial erysipelas—a disease, too, which prevails under meteorological conditions similar to those under which pneumonia prevails. It may well be that the true solution is that in all bacterial diseases the microbes are, as Dr. Powell suggested, epiphytic, but yet specific and characteristic of the disease.

Dr. MAGUIRE had exhibited at Belfast the pneumococcus not only in the lung but in other organs—as spleen, kidney, &c. In the case of all germs one must consider the concomitant conditions. Undoubtedly cold has some influence in producing pneumonia. When he was pathologist at the Manchester Infirmary there were epidemics of pneumonia and fatal cases, especially in certain months of the year. At the same time, it is absolutely certain that there is a microbe in the pneumonic lung which differs from others, and it is probable that we might trace its life-history a little further. The mere morphological characters of a germ are of no use in determining specific differences; the physiological properties must also be considered.

The PRESIDENT (Dr. Dreschfeld) said that there does exist an organism in some forms of pneumonia, one which can reproduce the disease after culture and inoculation, there is very little doubt, although it may not be present in all forms. It is impossible to recognise as a pathological entity the pneumococcus found in sputum. If the same pneumococcus be found in the lung and cultivated, &c., it must have something to do with the disease. That a contagious pneumonia exists is proved beyond doubt; and there is the type known clinically as "creeping pneumonia," where the inflammation spreads gradually from one part of the lung to another. In Manchester, lately, this form of contagious pneumonia prevailed with well-marked characteristics. In these cases the pneumococcus was found and cultivated, and inoculations made by Friedländer from these cultures produced pneumonia in guinea-pigs, but not in rabbits. One is compelled to admit modified forms of pneumococcus to explain these different forms of disease. Indeed more than one kind of pneumococcus has been found. Besides Friedländer's, there is that described by Fraenkel, which can infect rabbits but not guinea-pigs; and a third variety has also been met with. If there be such differences in the microbes, it is easy to explain clinical differences. Recently a pneumococcus has been found in catarrhal pneumonia. Again, the same anatomical lesion may be produced by different causes, and no doubt there are many predisposing causes.

Drs. STURGES and POWELL replied briefly.

Dr. W. A. HOLLIS read a paper on Pulmonary Tuberculosis associated with Heart Disease. The author gave brief notes of three cases of heart disease associated with tubercle of the lungs. In every instance the heart disease preceded the phthisical symptoms. The cardiac complications, which were various, resembled each other, inasmuch as they were invariably accompanied with dilatation, of the right chambers especially. Dr. Hollis conjectures that, as the cubic expansion is three times the linear, the contractile energy of a dilated ventricle will speedily prove inadequate to propel its liquid contents through the vessels, even when its strength is supplemented by considerable compensatory hypertrophy of the walls. In such cases the heart at each contraction only forwards a portion of the contained blood

at each systole, and it therefore necessarily acts as a reservoir for the residuum. This condition of the circulation leads to anæmia and consequent malnutrition of the body generally—a state which was observable in all the cases narrated. The lungs will especially suffer under these circumstances, and will possibly offer a favourable nidus for the growth and development of tubercle bacilli, which were discovered in the sputum of one of the narrated cases.

PUBLIC MEDICINE.

On Wednesday, August 11th, after the introductory address by the President, Dr. Taaffe, Deputy-Surgeon JOSEPH EWART opened a discussion on Scarlet Fever, its causation, and the best sanitary measures for dealing with the disease as it exists among urban populations. He said that scarlet fever accounts for a twentieth or twenty-fifth of the general death-rate; it occurs among all classes, but is mainly a disease of early life. Its infectious character is based on the clearest evidence; it is often difficult to trace the origin of the first case, but there is no doubt as to the manner of its spread afterwards. The prompt removal of a case of scarlet fever prior to the development of its infecting property is sure to prevent its communication to others; immunity is also obtained by the thorough disinfection of tainted articles. The speaker then proceeded to show that the *materies morbi* appears in the juices of the skin, in the exfoliated cuticle, nasal and pharyngeal exudation, the breath, probably at certain stages in the renal secretion, and possibly in the alvine excreta. After describing the means by which the disease is disseminated, Dr. Ewart discussed the incubation period, which he stated to be usually from two to five days, occasionally not more than twenty-four hours or even twelve or fourteen days. He considered it rarely communicable during incubation, but infectiousness lasted from the commencement of the eruption up to the completion of the peeling process. Imperfect ventilation and overcrowding increase the liability to this disease. To prevent its spread the first essential condition of prophylaxis is segregation of the affected from the unaffected and continued isolation of the sick; the detailed arrangements were indicated as well as those of disinfection, and the speaker urged the need for all hospitals being provided with isolation wards and of special hospitals for the reception of those who could not be properly isolated in their own homes. But their use is not to be regarded as sufficient substitution for sanitation and hygiene. Notification was pleaded for, and this subject was briefly discussed as well as that of compulsory removal. Dr. Ewart, while expressing his sense of the value of these methods of prevention, doubted whether the compulsory removal of cases would receive the cordial assent of the public at the present time.

Dr. WILLIAM SQUIRE expressed the opinion that the improved sanitary condition of a town had never led to any difference between the incidence of scarlet fever upon the rich and the poor, those surrounded by the best circumstances and the most healthy suffering as severely as others. With reference to the subject of notification of infectious disease, he thought medical men would raise no objection. Hospitals for the isolation of persons suffering from this class of malady should be situated near to where the patients lived; he had never known scarlet fever spread from an invaded house to another on the opposite side of the street.

Dr. GRIMSHAW considered that the most important means of preventing the spread of scarlet fever was, in the first place, notification of the disease, and the isolation of the patient must follow.

Mr. BUTTERFIELD observed that his experience was that the worst cases of scarlet fever did not occur amongst poor persons. Notification was of no use until the means for isolation had been provided. In Bradford he had met with no difficulties in the enforcement of the provisions of the local Notification Act.

Mr. VACHER held that powers of compulsory removal of infectious cases were urgently needed. At Warrington, where this power existed, 90 per cent. were removed to hospital. Still, much could be done without such power, as at Salford, where 50 per cent. of the cases were removed.

Dr. TAAFFE, after speaking in favour of the Nottingham system, where the medical man notifies to the householder and the householder to the sanitary authority, urged the need of provision for isolation of persons in all classes of life.

The discussion was continued by Drs. Groves, Norman Kerr, Sykes, Duncan, Bird, and Surgeon-Major Evatt and Mr. Brown.

Mr. BOOBBYER read an interesting paper on two outbreaks of scarlet fever which occurred concurrently with the disturbance of impure subsoil, to which we hope to refer later.

The proceedings terminated with a paper by Surgeon-Major PRINGLE, on the Advantages and Disadvantages of Human and Animal Lymph. He pointed out that his object in making this comparison was that, judging from the report of the German Vaccination Commission, published in 1885, and very carefully condensed by Dr. E. J. Edwardes, the preference, as given by this very important commission was undoubtedly in favour of animal lymph. The necessity advanced by the opponents of human lymph for the substitution of animal for human lymph was based on the following four objections:—1. The supposed deficiency in the protective power of human lymph, owing to some unaccountable deterioration in this principle, caused by the passage of the virus through the systems of so many individuals. 2. The danger to health and life, owing to the possible introduction into the system of syphilis or the infection of erysipelas. 3. The difficulty of obtaining sufficient human lymph for any sudden emergency or great demand. 4. The general objection raised to the withdrawal of lymph for other operations. Animal lymph, the speaker said, was supposed to overcome these four objections, as follows:—1. Animal lymph could never become deficient in protective power, owing to its constant reinvigoration from the calf. 2. The dangers to health and life, owing to the possible introduction into the system with human lymph of syphilis and the infection of erysipelas, could not occur where animal lymph was employed. 3. As long as suitable calves were obtainable, it was maintained that the supply of animal lymph, to meet any emergency or great demand, was inexhaustible. 4. For the same reason, no possible objection could be raised under this point. Dr. Pringle then met the four objections brought forward against human lymph. 1. The objection under the head of deficiency of protective power. In Dr. Pringle's extensive and prolonged vaccine practice in India, details of which he gave, he maintained that, where carefully and systematically practised by arm-to-arm vaccination, this deterioration was unknown, and this was certainly not due to the absence of small-pox contagion or infection. 2. There was a complete absence in the above practice of any risk as regards syphilitic transference, and the infection of erysipelas was unknown. 3. With a properly instructed vaccine staff this limited supply of human lymph was unknown, and where the number of children was small the knowledge of storing lymph prevented any difficulties under this head. 4. Mutual confidence between the vaccinator and the parents of the children would satisfactorily overcome any difficulty regarding the withdrawal of lymph for future operations. Dr. Pringle argued against the view that animal lymph was more protective than humanised, and quoted an official report in support of the view that a spurious vaccination could exist for years. Further, that blood poisoning, although not of a syphilitic character, might follow the use of animal as well as humanised lymph, that animal lymph was incapable of storage or despatch with any certainty, and that unless squeezed out with clamps and forceps the contents of six vesicles would only supply sufficient material for the inoculation of one person.

On Thursday, Aug. 12th, Dr. GAMGEE, F.R.S., on behalf of Dr. Ransome of Manchester, who was unavoidably absent, read a paper on the Duration of Infectiousness of Scarlet Fever, Small-pox, Measles, Mumps, and Diphtheria, and pointed out the need for more precise information on this subject. He suggested that the Association should appoint registrars throughout the country who should investigate every case which came to their knowledge, and obtain, when necessary, detailed information from medical men and even the patients themselves, so as to avoid all source of error.

The discussion was continued by Drs. PRINGLE and HOPE, the latter defining the infectious period of measles to extend from the second day of the symptoms and to last for three weeks; of small-pox, from the first day of the symptoms to from three to four weeks; scarlet fever, from the fourth day, and to last seven weeks; mumps to be under three weeks; and diphtheria to be the same.

Dr. C. KELLY read a paper on the Relation of Soil to Diphtheria. It was shown that in England the death-rate from this disease was the lowest of the four common diseases of childhood, while in some parts of Sussex the mortality from

diphtheria was higher than from measles, scarlet fever, and whooping-cough added together. This prevalence was coincident with wet, retentive soils. On the dry and pervious formations, the death-rate over a period of ten years was only 127 per million persons living, while on the cold, wet soils the mortality was 454 per million. This great increase was not met with in large towns or in populous places, where inter-communication among children is very frequent; but it was most marked in lonely, isolated places, where the children had to go a long way to school and were exposed to conditions of cold and wet. In urban districts no similar outbreaks were met with, and in such cases the disease seldom spread, and it was apparently due to sanitary defects. The disease constantly appeared in rural districts in the autumn of the year, causing primary outbreaks.

Dr. PARSONS agreed generally with Dr. Kelly's conclusions except as to the relation of diphtheria to damp soils; he himself had noticed endemic prevalence of this disease on high and dry soils, and indeed on all kinds of soils. He dwelt upon the special prevalence of diphtheria in rural as compared with urban districts, and quoted statistics in proof of this fact. Diphtheria, he thought, was spread by personal communication, but in towns usually some sanitary defect was found in the houses where it occurred, but this was not so in the country. He suggested that the freedom of towns might be explained if the disease were due to some fungoid growth which could not thrive in an atmosphere of coal-smoke; on the Continent, where coal is not largely consumed, towns are not more exempt than country districts.

Dr. WILSON, of Doncaster, observed that while the deaths from zymotic diseases generally were decreasing, those from diphtheria were increasing.

Dr. SQUIRE called attention to the fact that clay soil occupied a much larger extent than other soils, and this, he thought, might account for the greater prevalence of diphtheria thereon.

Dr. GROVES thought there was a relation between the prevalence of diphtheria in a district and antecedent scarlet fever; he noted the tendency of these diseases to appear in wooded districts.

Dr. KELLY, in conclusion, raised the question whether the diphtheria of the towns was absolutely identical with that of the country districts.

Surgeon-Major EVATT gave an address on the Medical Department of an Army Corps in War. He said an army corps in war time consists of 36,000 men; this is divided into three parts of 10,000 men each, with a cavalry brigade and artillery. To each regiment is attached one medical officer, and he has given him two to four men per company. Their duties are to give first aid to the wounded, who then pass into the hands of the divisional bearer companies of the medical staff corps, with all necessary appliances, waggons, &c. The wounded may be operated on at this stage and subsequently transferred to the field hospitals, of which there are in each army corps fourteen for one army corps. Thence the wounded pass to the base hospital, the organisation of which was described, and thence in the ship hospitals to England. Dr. Evatt pointed out that what is now needed is a Volunteer medical staff corps sufficient to supply divisional bearer companies and field hospitals in the same way for the Volunteer forces, which are now 250,000 strong.

Dr. BILLING gave an account of the difficulties with which the army surgeon had to contend during the American war, and Mr. WALTER PEARSE stated that steps were now being taken to improve the medical service in connexion with the Volunteers.

Dr. TATHAM (Salford) read a paper on the best means of dealing prophylactically with Scarlet Fever in urban populations. It appears that in past years Salford has occupied a prominent position amongst the scarlet fever fields of England, the average annual rate of mortality from this disease in the twenty years ending in 1875 being equal to 135 per 100,000 of the population; but that under the combined systems of compulsory notification and hospital isolation obtaining in the borough during the last few years scarlatina mortality has been reduced to an average rate of 50 per 100,000. Dr. Tatham gave interesting particulars of the steps taken in Salford for the stamping-out of scarlet fever, vigorously insisting that in order to exercise reasonably sufficient control over its spread, it was essential that sanitary authorities should possess powers for securing immediate notification as to all scarlatinal attacks.

At the conclusion of a discussion which followed the reading of the paper, the subjoined resolution, proposed by Dr. TATHAM and seconded by Dr. GRIMSHAW, the Irish Registrar-General, was carried:—"That the Public Health Section of the British Medical Association, having considered the papers read and the remarks made upon them, are of opinion that the time has arrived when the protection afforded under the Act for the compulsory notification of infectious diseases should be extended to the population generally, and they recommend the Council to consider at an early date the advisability of endeavouring to promote general legislation with this object in view."

Preliminary to the adoption of this resolution, Dr. WHITELEGGE showed a marked reduction in deaths from scarlet fever in Nottingham subsequent to the passing of a Notification Act. Diphtheria, which had only recently been added to the list of diseases to be notified, had only declined since that time.

Dr. H. ASHBY read a paper on the Duration of Infectiousness in Scarlet Fever, and urged the necessity for seaside towns who wished to preserve their reputation as health-resorts to take special precautions.

Dr. NORMAN KERR read a paper on Hydrophobia, in which he gave the history of the disease, and stated that it was known to Aristotle. Referring to Pasteur's work, he considered that he had been more successful than any other person; Dr. Kerr expressed the opinion that all dogs should be muzzled and stray dogs destroyed.

Mr. C. E. PAGET followed with a paper on the Influence of Acute, supposed Simple, Sore-throat in the spread of Diphtheria. This paper contained descriptions of two epidemics of diphtheria which occurred in and around two villages widely separated from each other during the months of September, October, and November, 1885. Both of the outbreaks were characterised by the mildness of the large majority of the cases that occurred, and in one this feature was so masked that the nature of the prevalent throat illness had never been suspected until the close of the outbreak, when a severe case of true diphtheria came to light. That the doubtful cases of past and present throat illness in the two epidemics, which the writer at the time of investigation was able to collect together, were cases of "mild" or "benign" diphtheria, though they were not followed by paralytic sequelæ, was rendered probable, (1) because one of the results of investigation was the disclosure of the fact that these cases had occurred in close precedence of true cases of diphtheria; (2) because other cases of throat illness as mild, which followed them in both epidemics, were found to have been cases of diphtheria; and (3) because there is at present not evidence enough to support a theory that a single simple case of sore-throat can give rise to a case of diphtheria. The paper concluded with an explanation that such epidemics can occur so easily and so extensively in rural districts, chiefly because medical men are necessarily few in number, and the labouring classes are not in the habit of seeking medical aid in mild cases of illness.

The meeting concluded with a paper by Surgeon-General CORNISH on an Outbreak of Cholera among British Emigrants on board a vessel proceeding from London to Queensland in the latter part of last year.

On Friday, August 13th, Dr. MICHAEL W. TAYLOR (late of Penrith) read a paper on Diphtheria in connexion with Mould Fungi. The purpose was to work out a certain hypothesis, which, stated in its simplest form, was this: that the spores of some common moulds under certain conditions are capable of originating diphtheria. He now brought forward the whole evidence from his personal clinical experience in support of these views. The cases disclosed some curious, exceptional, and unique features in their history, comprising observations in seven different outbreaks of diphtheria, amounting to sixteen attacks and two deaths. In one series of cases the growth of aspergillus associated with a pileate fungus a coprinus, on the walls of a bedroom, was given as determining the incidence of the disease. In another case the development of common moulds in a damp house, within which a large quantity of recent cat-skins were stored, seemed the most probable source of a fatal case of diphtheria. In another instance a young man took diphtheria severely four days after working all day in a pigeon garret which was full of mould from the débris and rotten woodwork. Three outbreaks of diphtheria were traced to the sufferers having occupied rooms in which a large quantity of sheep's wool had been stored. Dr. Taylor regarded the incidence and sequence of events as affording strong evidence in these cases that circumstances

arising from this wool storage were primary causes of these outbreaks. He continued the argument that diphtheria is due to the action of micro-organisms; that analogous parasitic diseases are produced by organisms morphologically identical with common moulds; that there may be alternations of development and transformations of innocuous organisms into pathogenic forms; that this may be the result of growth in noxious media; that the infective element may be a virus elaborated in the protoplasm of the organism derived from the media or a living host, and, along with the germ, capable of being multiplied in living structures.

Dr. CHARLES DRYSDALE read a paper on Animal Vaccination. He had, in a paper read before the Medical Society of London, strongly recommended the substitution of the process of calf-lymph vaccination to replace vaccination with long-humanised lymph now in use in this country. Many countries, such as Holland, the United States, &c., had at this moment practically abandoned humanised lymph, using calf lymph alone. Dr. Drysdale said he had always held that vaccination was merely mitigated small-pox, and that the reason why it protected against an attack of small-pox was that it was merely a slighter form of the same disease. If, then, vaccinia were mitigated small-pox, it was not probable that when transplanted to man it would remain long unchanged, and statistics seemed to show that long-humanised lymph had lost much of its power in preventing variola. Dr. Charles Cameron (*Fortnightly Review*, 1881) mentioned that the number of small-pox cases in 1000 vaccinated was very much greater of late years than formerly, and that the death-rate had increased from 1·75 per cent. between 1819 and 1835 to over 10 per cent. in 1870-79. On the other hand, the late Dr. Henry Martin, of Boston, U.S.A., had alleged most distinctly that up to the date when he attended the Ryde Congress of the British Medical Association, the calf-lymph vesicle had not in any way deteriorated or lost its preservative powers. According, too, to that most energetic of all modern vaccinators, who succeeded in banishing the use of humanised lymph from his adopted country, the United States, the case of animal vaccination was a complete preventive against small-pox, and also quite free from the reproach of causing erysipelas. Dr. Warlomont, of Brussels, also mentioned that, in the epidemic of 1870-71 in Brussels, those patients who had been vaccinated with calf lymph entirely escaped small-pox; and Dr. Martin gave instances where in one epidemic of small-pox in San Francisco humanised lymph had proved of little efficacy, whilst animal vaccine in a subsequent epidemic had entirely prevented the occurrence of small-pox. Dr. Drysdale thought the only conclusion must be that vaccine should always be drawn from the calf, and moved the following resolution:—"That this meeting, after taking into consideration the superior advantages of animal vaccination over long-humanised lymph as acknowledged in the United States and other countries, such as Holland and Prussia, recommends the substitution of vaccination by calf lymph for the present system of arm-to-arm vaccination, and the discontinuance of the practice of arm-to-arm vaccination in this country."

Mr. J. BRINDLEY JAMES seconded Dr. Drysdale's motion.

Mr. SHIRLEY MURPHY and Dr. WILLIAM SQUIRE urged the advantage of arm-to-arm vaccination over any system that would necessitate the use of stored lymph, and opposed the motion.

After further discussion an amendment was adopted in favour of arm-to-arm vaccination, but expressing the opinion that greater opportunities should be given for direct vaccination from the calf.

Dr. J. GROVES read a paper on the Sanitary Acts as applied to Rural Sanitary Districts. He said the rural sanitary district is not what its name would imply, a purely agricultural area, but one containing old and new towns and parts of large towns and cities which possess urban government and which have overflowed the civic boundaries. The suburbs of towns will increasingly extend into the rural districts about them. The powers and obligations of rural authorities should therefore be commensurate with their responsibilities. The Rivers Pollution Act, 1876, applies fully to rural sanitary districts, and the rural authorities can by it prevent even the pollution of the sea under certain circumstances. The Public Health Act, 1875, contains enactments which are common to both urban and rural districts, or which apply to one or other exclusively. Section 91, which applies to both, is the only weapon possessed by rural sanitary authorities for abatement of the most dangerous nuisances. The test of the value of a sanitary law is the celerity with which it can be used. It takes about six weeks to bring into and enforce in a court of law Section 91. A similar nuisance in the next street under urban rule can, and in many cases must, be abated by the authority, under Section 47, which belongs to urban authorities exclusively. Offensive trades can only be dealt with as nuisances under Section 91 by rural authorities, and it is most difficult to obtain a conviction; while urban authorities can deal with them successfully under Sections 112 and 114. Dangerous and dilapidated buildings, dealt with by urban authorities under Section 160, cannot be dealt with at all by rural authorities. Although nearly all the new houses are being built in the rural districts, in many parts rural authorities have not the least control over their construction or over the construction of wells or cesspits. Section 276 enables rural authorities to apply to the Local Government Board for urban powers, but as the section is permissive it is comparatively valueless. Many rural authorities will not accept urban powers or make bye-laws. The Public Health (Water) Act, 1878, would have more value if it contained a definition of what constitutes wholesome water. The continued wholesomeness of water depends upon the surroundings of the supply rather than upon the existence of a small amount of organic matter in it at a given moment. The Sanitary Acts enable rural sanitary authorities to deal only with what is at the time present. They cannot require precautions to be taken for security of the public health. The time has come for revising the Public Health Act, 1875, as it applies both to urban and to rural authorities, but in rural districts it is imperative that action should be taken forthwith. Certain sections of the Act of 1875—as Secs. 47, 49, 112, 114, and 160—should be at once made universally applicable, and rural authorities should be required to frame bye-laws, and especially such building bye-laws as would give fair security against disease. To this end it is desirable that the Local Government Board should frame a second set of simple model bye-laws especially applicable to rural districts.

OTOLOGY.

MR. HODGSON, the President of the Section, selected as the subject of his address the Progress of Aural Surgery during the Present Century, and, after offering a welcome to the visitors, remarked that the period of eighty years includes the history of about all that can be recorded on the subject to any purpose; as although the anatomy of the organ of hearing had been fairly well made out for a century or more previously, a knowledge of its diseases and their suitable treatment could not be said to exist: what was thought and done was not only devoid of common sense, but for the most part empirical, not to say absurd, and sometimes even disgusting. In 1806 a Mr. John Cunningham Saunders (demonstrator of practical anatomy at St. Thomas's Hospital) brought out the first book of English origin that put aural surgery on a clear and sound footing. He classified the diseases as they respectively affect the outer, middle, and internal portions of the organ; and although his means of diagnosis were very defective, yet by making numerous careful dissections of the ears of deceased persons who had been deaf, he obtained valuable information wherewith to guide his notions of pathology and treatment. He pretty successfully treated otorrhœa and polypus, practised paracentesis of the membrane for tympanal suppuration, and showed that neglected suppuration of the ear might lead to brain disease. Some six years previously Mr. Cooper (afterwards Sir Astley) had, at the suggestion of Sir Everard Home, punctured the membrane in a few cases in which the Eustachian tube was supposed to be impervious, with the object of letting air into the drum cavity. Some thirty years afterwards, Kramer of Berlin, and two years later Pilcher of London, each brought out a book on diseases of the ear. Both these authors dwelt much on the importance of Eustachian treatment; Kramer by means of the catheter and a metallic air-pump for forcing in air and vapours to the tympanum, and Pilcher by using bougies and stilettes and sending in fluid injections by the catheter and a syringe. Kramer's treatise held sway for many years; although his air-pump soon fell into disuse in England, especially after the occurrence in London of two sudden deaths during its employment by a practitioner in Gower-street. Emphysema of the throat, implicating the glottis, was supposed to be

the effect, the mucous membrane having been torn first by the point of the catheter. A case of emphysema of the neck, whilst using the catheter and air-pump occurred to Pilcher, but it did not prove fatal. In 1848, in THE LANCET for July 1st, Mr. Yearsley made public his fortunate discovery of the so-called "cotton-wool drum," the value of which is still considered as great as then. If Saunders had lived longer one can imagine that he might have hit upon something of the sort, as he seems to have been much struck with the fact that one or two of his patients heard considerably better whilst a drop or two of fluid (even if it were pus) was in contact with the maimed membrane. During the decade 1850 to 1860, Wilde of Dublin and Toynbee of London came to the front, the former advancing aural surgery in a thoroughly practical and common-sense manner. The polypus snare, a free incision down to the mastoid process, and the tubular speculum are identified with his name—the speculum, however, being modified from Gruber's, and perhaps not thereby improved. Toynbee, by his painstaking and indefatigable dissections, put the pathological anatomy of the ear on a footing never previously approached, and which has largely helped forward a more correct understanding on the subject. In consequence of Toynbee having drawn attention to the normal condition of the Eustachian tube being *closure* (except under the influence of some muscular action, such as swallowing), Politzer was led to work out his simple and now well-known method of inflating the drum cavity. The name of Politzer, Mr. Hodgson observed, brings us to within a quarter of a century of the present day. During this period increased activity has sprung up, most civilised countries having furnished men who have made advances in otological knowledge. Thus, Lucæ and Politzer have taught us the use of the tuning-fork; trephining the mastoid (which Petit originated in 1774) has been revived by Troltsch, James Hinton, and some Americans, and been fully established as an orthodox proceeding. Troltsch again has given us a simple, but effectual, mode of illuminating the meatus and the drum membrane; and the laryngoscope, reversed, serves us well for examining the pharynx and posterior nares; whilst, during the same space of time, numerous books and monographs have appeared, wherein not only the minuter anatomy (healthy and morbid) and physiology of the ear, but also the general principles and various details of aural surgery, have been described with as much accuracy as characterises other branches of surgery. In conclusion, Mr. Hodgson remarked that, although he had practised at Brighton for forty years, he had met nothing to support the theory advanced by some aural surgeons that exostoses of the meatus owe their origin to sea-bathing, although he had known prolonged "side-stroke" swimming in the sea cause severe ordinary otitis on the submerged side.

ANNUAL MUSEUM.

The exhibition of foods, drugs, and peptonised compound nutrients in the Museum of the British Medical Association at Brighton this year was of quite an exceptional character, and attracted a great deal of attention both from the members and the public generally. Most of the leading houses were represented, and an effort had evidently been made to ensure a display of new remedial agents.

Messrs. Allen and Hanbury showed not only drugs, but apparatus and accessories adapted for medical and surgical purposes. Their douches and sprays for the throat, nose, and ear were of especial interest, and were carefully examined by many of the visitors. Their cresolene has now been for some time in the hands of the profession, and the general opinion seemed to be in every way favourable to its employment. Their perfected cod-liver oil and tasteless castor oil are already established favourites, and call for no detailed criticism.

Messrs. Savory and Moore exhibited pancreatic emulsion, datura tatula specimens, and a fine collection of lamels and discs of all kinds. Their "fruit confection" and taurocholate of sodium pills coated with keratin are especially deserving of mention. The solid liniments of belladonna, aconite, camphor, and croton oil are a decided advance in pharmacy, and deserve to be better known.

Messrs. T. and H. Smith exhibited morphine, codeine, cryptopia, meconisine, gallic acid, tannic acid, jalap resin, scammony resin, and many alkaloids and active principles, for the careful preparation of which they have been so long renowned.

Messrs. Corbyn, Stacey, and Co. were represented by various drugs, chemicals, and pharmaceutical products of recent introduction. Their "Notes on Drugs and Chemicals" served admirably to explain and elucidate the various points of interest in connexion with their exhibit. Their new soluble cerium salts are a decided novelty, and will probably in time supersede the old-fashioned oxalate. Their liquor tolutanus is very valuable as a flavouring agent, and has many advantages over the syrup of the Pharmacopœia. Their apiol perles are useful, and will be found of service in the treatment of amenorrhœa and other allied conditions. In connexion with Messrs. Corbyn, Stacey, and Co.'s exhibition we may call attention once more to Valentine's meat juice, for which they are the agents. In this admirable preparation not only is the flavour of the meat preserved, but the albumen of the juice is retained in perfect solution.

Mr. Martindale exhibited his well-known Antidote Bag furnished with a complete supply of physiological and chemical antidotes, hypodermic syringes, and case of solutions. His capsules of glass encased in silk and cotton-wool, and containing bromide of ethyl, chloroform, iodide of ethyl, and nitrite of amyl, are admirable contrivances; whilst his granular effervescent preparations of caffeine hydrobromate, sulphate of sodium, and sodio-magnesian aperient are beyond praise. The various odourless substitutes for iodoform—iodol, iodosalicylic acid, and diiodosalicylic acid—attracted much attention. We noticed a very fine specimen of mercurous tannate, the new remedy for syphilis, introduced by Lustgarten of Vienna. It is best given in the form of pills, each containing one and a half grains.

Messrs. Burroughs, Wellcome, and Co. showed some excellent specimens of Strophanthus hispidus, the new heart remedy and substitute for digitalis, introduced by Professor T. R. Fraser of Edinburgh. Their tincture of strophanthus is a reliable preparation, and is now largely employed. The Burroughs pure terebene, for the treatment of chronic bronchitis, winter cough, flatulence, acidity, and allied conditions, is free from all objectionable odour and taste, and may be prescribed with confidence. The new tabloids of antipyrin and trinitrin—the latter for the treatment of angina pectoris and asthma—are decided novelties, and deserve a trial. Their medical pocket cases, hypodermic cases, and medicine chests are excellent, and will be found most useful in country practice. This firm, we notice, makes a special feature of Dr. Liebreich's lanoline in all its various forms for external application.

Messrs. Thos. Christy and Co. showed an admirable collection of new and rare drugs, including acalypha indica, alveolos milk, kola nut, papaw juice, viburnin, and aletrin. The Siegesbeckia orientalis is said to be a valuable depurative, and to possess great healing properties when employed in the treatment of gangrenous ulcers and sores. The sentellarin prepared by the well-known firm of Lloyd Bros. of Cincinnati, for which Messrs. Christy and Co. are the agents, is a tonic stimulant to the nervous system, and is useful in low fevers and when the system is suffering from exhaustion due to over-excitement. Many of these remedies are as yet but little known, at all events in this country, but they have undoubtedly a great future before them. In connexion with Mr. Thos. Christy's admirable exhibit it is only fair to award a passing word of praise to the periodical entitled "New Commercial Plants and Drugs," so admirably edited by that gentleman.

Messrs. John Bell and Co.'s exhibit consisted chiefly of a collection of specimens of absorbent wool, with boric, carbolic, and salicylic acids, iodine, iodoform, perchloride of iron, and matico, all of which are of much value.

Messrs. Burgoyne, Burbidges, and Co. exhibited for Messrs. Parke, Davis, and Co. specimens of the well-known fluid extract of cascara sagrada and cascara sagrada, both of which are now so largely used in the treatment of obstinate constipation. The Semple's atomising inhaler shown by the same firm is an admirable contrivance, and commends itself to our notice in the treatment of hay fever and coryza. It may be employed for atomising almost any medicated fluid, but compound tincture of benzoin and a mixture of pure terebene and oil of cubebs are most commonly employed. We have no doubt that the employment of atomised fluids for bronchial affections will soon become more generally known.

Messrs. Fairchild Brothers and Foster, of New York, exhibited some very fine tripsin, the most potent form of the fibrin-digesting principle of the pancreas. It is said to be

a powerful solvent of diphtheritic membrane, and to be capable of effecting a cure in well-nigh hopeless cases. The pepsine in scales prepared by this firm is a good digestive agent; whilst their zymine (extractum pancreatis) and zymine tabloids will always take a high place as therapeutic agents.

The Maltine Manufacturing Company showed, in addition to their maltine, specimens of Carnrick's beef peptonoids, Carnrick's peptonised cod-liver oil and milk, and Carnrick's soluble food for infants, invalids, and the aged—the last-named being described as a substitute for mother's milk. Peptonised foods of all kinds are now largely employed in the treatment of many diseases, and are of much value.

The Kepler Malt Extract Company have three new preparations—(1) malt and cream, consisting of two parts of the former and one of the latter evaporated *in vacuo* to dryness; (2) malt and milk food for infants and invalids, designed to correspond when diluted to human milk, the milk being peptonised; and (3) a malt, milk, and chocolate combination, made in the same way as the preceding preparation with the addition of a small proportion of pure coca. These new preparations are all of much value. The Kepler Extract of Malt Company also demonstrate by a series of microscopical specimens that their extract of malt and cod-liver oil is a true solution and not merely an emulsion—a point which may now be said to be fairly established.

In connexion with therapeutical appliances we must award a word of praise to Mr. Coxeter's batteries. His constant currents are remarkable alike for their cheapness and excellence. Some of the small batteries are admirably adapted for use by patients themselves, whilst others are most elaborately fitted, and will be found useful in the consulting-room.

In Section B, which included new books, surgical instruments and appliances, there were numerous interesting exhibits.

Messrs. Down Brothers showed many instruments which have been invented by Guy's Hospital surgeons, such as Golding Bird's trachea dilator, Lucas's forceps for removal of foreign bodies from the air-passages, Symond's œsophageal tube, nephrectomy instruments, lithotomy and lithotrity instruments, and midwifery instruments.

Messrs. Mayer and Meltzer exhibited a new spirometer by Dr. Mackenzie; a new intraocular syringe by Dr. M'Keown; and their patent self-adjusting piston.

Messrs. Weiss and Son had a collection of modern surgical instruments.

Mr. Hawksley showed a large series, including a very interesting set of appliances or aids for the improvement of hearing, as well as instruments employed in aural surgery.

Messrs. Coxeter and Son exhibited their new student's ophthalmoscope and a number of electric batteries and appliances.

Messrs. Evans and Wormull showed improved instruments for registering temperature, for aspiration and exploration, and improved appliances for dressing wounds. Exhibits were also shown by *Messrs. Krohne and Sesemann* and *Messrs. Arnold and Sons.*

Electric apparatus was exhibited by the *Electric Apparatus Company;* optical instruments by *Messrs. Pickard and Curry, T. Rowley and Son,* and *W. S. Stanley.*

Mr. H. K. Lewis and *Messrs. Cassell* showed a large collection of their respective publications; whilst charts, diagrams, &c., were exhibited by *Messrs. Danielssen and Co.* and *H. Silverlock.* Haviland's health guide map for Brighton was also appropriately exhibited.

In Section C, devoted to anatomical and pathological specimens, the most striking exhibits were the photomicrographs and microscopical preparations of Dr. Heneage Gibbes. *Messrs. R.* and *J. Beck, Medland,* and *E. Hinton* showed microscopes and microscopical appliances. Pathological specimens from the museum of the Sussex County Hospital were exhibited by Mr. L. P. Blaker; and specimens of cardiac thrombosis and others from the Great Ormond-street Hospital for Sick Children were exhibited by Dr. Chaffey. There was also a collection of specimens from the Alexandra Hospital for Children, Brighton. Dr. Tyson and Dr. Bowles of Folkestone showed several specimens; and Dr. Goodhart had sent some from Guy's Hospital museum. Dr. Beaven Rake exhibited some specimens of leprosy; and models and drawings of cutaneous disease were shown by Dr. Brooke, Dr. H. Radcliffe Crocker, and Mr. J. Startin.

Besides drugs, Sections A and B included also hygienic and sanitary appliances—such as specimens of Dr. Jaeger's woollen clothing and bedding; *W. Barlow's* "hygienic boots"; invalid couches, &c., by *J. Carter, Hamilton and Co., W. Watson, Leveson and Son.* Earth-closets were shown by the *Moule Sanitary Company,* and other improved closets and lavatory arrangements by the *Hygienic and Sanitary Engineering Company.* In the Pavilion Grounds *Messrs. Pugaard and Galschiot* showed a portable hospital on Tokeer's system.

BACTERIOLOGICAL MUSEUM.

This was perhaps the most unique of the week's exhibits, and too much praise cannot be awarded to Mr. E. Crookshank, who supervised and arranged it, and who attended during the whole of each day of the meeting to explain and demonstrate the apparatus and preparations. Three large rooms in the School of Science and Art were devoted to this purpose. In one there was a complete collection of bacteriological apparatus exhibited by F. E. Becker and Co., J. J. Griffin and Son, and R. and J. Beck, and by Mr. Crookshank. In another room there were to be seen all the processes which go on in the bacteriologist's laboratory—viz., cultivation of micro-organisms, of various kinds, in different media. These were exhibited by Mr. Crookshank and Dr. Penrose. The third room was devoted to an equally extensive display of microscopical preparations of bacteria and other pathogenic organisms, and also of photomicrographs and apparatus connected with photomicrography, all these exhibits being by Mr. Crookshank. On no occasion has there ever been collected so large a number of specimens and *matériel,* and to the great majority of those who visited the collection it must have been the means of opening up a new world. They were enabled to realise the remarkable extent to which the study of bacteriology has been carried, as well as to admire the industry and painstaking which had enabled so striking a demonstration to be made.

In closing this brief notice of the annual meeting of the Association, it is right to add that everything appears to have passed off with success, both the social and scientific elements being carried out with a spirit which could hardly be surpassed. Something, no doubt, must be put down to the fortunate circumstance of the place of meeting. Brighton looked at its best, and the extensive and admirable accommodation afforded by its excellent hotels was much appreciated by the members of the medical profession who came from all parts of the kingdom to take a part in this annual gathering.

The social entertainments of the week were brilliantly closed by the reception given by the Mayor and Mayoress at the Royal Pavilion on Friday evening.

Saturday was devoted to excursions, of which five had been planned—viz., one to the Isle of Wight by special steamer, the passengers landing at Ryde, where they were entertained at luncheon before returning to Brighton by the route they came; another to Arundel and Chichester, visiting the castle and cathedral at Arundel and being entertained at luncheon by the Duke of Norfolk, thence to Chichester, where a visit was paid to the cathedral and the party were entertained at tea by Dr. Tyacke and the medical men of Chichester in the old Council Chamber. A third party proceeded to Eastbourne, where they were entertained at luncheon, followed by visits to Romsey and Beachy Head; a fourth excursion was to Tunbridge Wells, with drives to Penshurst, Eridge, and Bayham; and a fifth to Hastings, when the new hospital with circular wards was inspected, thence to Battle and Normanhurst, the seat of Lord and Lady Brassey.

Amongst the special visits of interest made during the week there were two of notable prominence as indicative of the measures taken by the Brighton authorities to ensure a good water-supply to the town and an efficient system of drainage. On Wednesday a large party inspected the Goldstone Waterworks, and on Friday there was a similar inspection of the intercepting sewer about four miles to the east of Brighton.

DARENTH CAMP.—On Monday last the Right Hon. C. T. Ritchie, President of the Local Government Board, visited the camp of Darenth and inspected the site for the proposed permanent small-pox hospital. He also made a careful inspection of the temporary buildings now standing, which were in use during the last small-pox epidemic.

THE LANCET.

LONDON: SATURDAY, AUGUST 21, 1886.

THE annual meetings of the British Medical Association become year by year more interesting, and, we are glad to observe, more practically useful and scientifically important. Time was when these gatherings were less popular, for the affairs of the Association were in the hands of the few; but with the growth of the body itself there has been infused into its management a more enlightened spirit, and the work the Association performs is proportionately extended. With the striking success of the Brighton meeting—one of the most successful that the Association has known—and the harmony that marked its proceedings, still fresh in the mind, it may seem ungracious to hint at certain improvements which are yet needed at these gatherings if they are to fulfil their whole purpose. At the same time, the Council may not take it amiss if we present to their notice some matters which require attention and reform. The Association is now so large a body that its interests and affairs have increased enormously, and although it confides all its important functions to a representative Council and to numerous committees, the conduct of its business requires more organisation than at present obtains. It must have struck many that the time allowed for such business is lamentably insufficient. The practice of having addresses in medicine, surgery, and cognate sciences in addition to a presidential address is not one which we should care to see abandoned; but it must be confessed that the transaction of business after a lengthy address is unsatisfactory. Those who are attracted to the general meetings to hear the addresses are not disposed to linger whilst the real affairs of the Association are being discussed and arranged. The general meetings therefore are attended by a small number only, and no topics are adequately debated. The remedy will lie in an extension of the time allotted to the whole meeting, and the setting apart of at least one day for the sole purpose of such debate. It may be said that it is impossible to afford sufficient time to ensure anything like an adequate discussion of such topics; that the general body of members would take no share in such debates, which could end in no practical result. This may be so; but in an Association that undertakes many and varied duties the opportunity at least should be afforded for free discussion upon certain questions of interest; especially should such provision be made in the case of the reports of committees. The merely formal adoption of these reports, although doubtless showing the confidence the members generally have in the committees, is, after all, but a poor compliment to their labours Take, for instance, the subject of Collective Investigation, a work upon which the Association has expended much funds, with, as many think, but inadequate return. The Committee itself would have liked to hear openly any objections to its line of action that might be entertained, and any suggestions for the better conduct of an undertaking that, *per se*, is desirable and valuable. It appears that the Council have undertaken to inquire into the work of this Committee, which we should regret to see abandoned, but which ought, if possible, to be made to excite greater interest among the profession Nor can we leave this subject without alluding to the labours of the Medical Reform Committee, and the well-merited recognition accorded to its indefatigable chairman by the Association. It was a graceful as well as a just act to bestow on Dr. WATERS the highest honour it was in the power of the Association to confer. Turning now from the general business of the Association to the actual scientific work of the annual meetings, it is plain that there is room for improvement here also. Of late years the practice has grown up of having set debates in most of the sections. The practice was never more fully developed than at this Brighton meeting. Some of these debates were of considerable interest and importance, and were shared in by many well entitled to speak on the topics raised. Others, equally interesting and important, languished from lack of debaters, and took place before a scanty assemblage of members. It is worth considering whether it is advisable to encourage the reading of papers on subjects other than those set down for special debate, and also whether the number of sections should not be restricted, or some arrangement made whereby the sittings may be held at different hours.

In passing in review the proceedings of the week, the President's address naturally claims the first consideration. Although dealing with a somewhat trite topic, it was yet one which we do not think has ever yet been attempted in these presidential orations. As medical men and physiologists, it is not possible to gainsay the truth of Dr. WITHERS MOORE'S statements upon the physical injury induced by a too keen and undiscriminating course of intellectual training. The mind can only be forced at the expense of the body, and this is true of both sexes. Dr. WITHERS MOORE, however, intended his strictures to apply to the female sex, and prophesied dark things of the deterioration of the race if the present striving for equality in the higher pursuits continues to be carried on by those upon whom devolves, or should devolve, the cares of maternity and the training of the young. Brighton is an intellectual centre, and has long enjoyed celebrity as a training-ground for young women; but even there it is surprising what differences have shown themselves in the methods of training within a generation. What we must all declaim against is intemperance in study, without due regard to the maintenance of physical health. Only those who are really the "fittest," in body as in mind, should be permitted to enter for those competitions—which are, we fear, doing as much harm as good—that now universally prevail. The examination system needs to be far more jealously guarded than at present; and those who have the charge of the young should aim less at heading the list with their scholars, and more after the individual capacities and the physical well-being of those committed to their care. It is too late in the day—nay, it would be unjust and wrong—to exclude women from such avenues of employment that many of them are driven by necessity to seek; but we can exercise more supervision over their training, and do much to render their path easier and the race healthier by so doing. We must face the fact that there is a "redundancy" of women, as the late Mr. W. R. GREG phrased it; and

surely if there be any manhood or chivalry left (and we cannot share Dr. MOORE'S fears that women themselves will be responsible for the loss of this attribute), we ought to take care that the weaker sex have a fair field for the exercise of their faculties, not so much in the way of competition with men as in co-operation for the general good. This, however, is a large question, and one which has received a great deal of attention. Dr. WITHERS MOORE'S address has given rise to criticism of all kinds and from all quarters. He spoke with authority, and he kept within the limits of physiological knowledge; but we take it that he would be the last to advocate a return to the primitive conditions of life or to close the door of knowledge upon one-half of humanity. The other addresses at Brighton were of a high stamp. No better substitute for the lamented AUSTIN FLINT could have been found than Dr. BILLINGS, whose quiet humour, indicated by tone and gesture as much as by language, made the task of listening to a somewhat dry topic a rare intellectual treat. Mr. HUMPHRY and Dr. MAPOTHER placed clearly before their respective audiences the position of surgery and public health at the present day.

On certain features of the Medicine and Surgery Sections we have commented elsewhere. In the Pathology Section three interesting debates, unfortunately very thinly attended, were opened by Dr. ROSS on peripheral neuritis, by Mr. HOLMES on aneurysm, and by Drs. STURGES and DOUGLAS POWELL upon pneumonia. The Public Medicine Section was amongst the most active, and here also an important practical subject—viz., the duration of infectiveness—was discussed preliminary to a collective inquiry. But we cannot undertake to enumerate even a small portion of the work done in the nine hours or so during which the several sections sat. Not the least valuable contributions made therein were the addresses of the sectional presidents, as might be expected when these include such well-known names as those of ERICHSEN, BROADBENT, CLOUSTON, DRESCHFELD, and LAUDER BRUNTON. Nor should mention be omitted of what was perhaps the most notable feature of the scientific side of this meeting—we mean the bacteriological demonstrations and museum, which were under the direction of Mr. CROOKSHANK. Some of those present may have recalled the fact that only five years ago, at the Worcester meeting, a very limited bacteriological demonstration took place in the Pathology Section. The newly-discovered tubercle bacillus and the mode of its demonstration then formed the staple topic. The contrast between that occasion and the present was striking, and spoke eloquently in evidence of the remarkable advance made in bacteriology, which may now well claim to be a special department of science by itself. Whether the next five years will show as great advances who can say? Perhaps with increased knowledge we may learn to modify our views as to the relation of bacteria to mankind, but it is hardly likely that we shall ever cease to recognise their importance.

The Brighton meeting was further notable for the visit of the delegates from the American Medical Association, headed by Dr. DAVIS, of Chicago, who had come to offer a cordial invitation to the Washington International Congress, over which Dr. DAVIS will preside. The reception accorded to these gentlemen is, we may trust, of good augury for the success of the Congress, which at one time seemed likely to be in jeopardy. Again, this meeting was important in being the first since the passing of the Medical Act, and the decision of the Association not to interfere in the election of direct representatives to the Medical Council is a wise and salutary one. Lastly, from a social point of view, there seems to be no two opinions as to the character of the receptions and entertainments with which Brighton honoured her guests, whilst the suitability of this favourite health-resort for such a gathering was warmly acknowledged by all.

THE members of the British Medical Association assembled at Brighton have been favoured this year with two very interesting but very different addresses in Surgery. Both were retrospective, both dealt with the great advances which have been made in recent years in scientific as well as operative surgery, and the authors are both men of mark and long and varied experience. Mr. F. A. HUMPHRY reviewed the past, not so much with a view to point out rapid strides that have been made, though fully recognising and valuing them, but for the purpose of inquiring whether old theories, old opinions, old treatment, old books, are sufficiently studied and considered—in fact, to inquire whether we are not possibly going ahead a little too fast. Is the "medical side of surgery" sufficiently considered, and making equally rapid advances with the more purely surgical aspect of the science?

"Of late years," asked Mr. HUMPHRY, "how much has surgery done for medicine? Has medicine done as much for surgery, and has the medical treatment of surgical disease received the same consideration or made the same rapid strides as the study and development of operative procedure?" LAWRENCE, in an Introductory Lecture fifty years ago, boasted that modern surgery had greatly diminished the number of surgical operations, but both Mr. HUMPHRY and Mr. ERICHSEN now point out that the modern surgery of to-day has vastly increased not the number only, but the scope and magnitude of operations. Mr. HUMPHRY, however, reminds us that "an operation is an admission that medical treatment has failed in curing the disease." Up to a certain point Mr. HUMPHRY is quite right, and we heartily concur in this view; but we would ask whether it is absolutely true that there are more operations than formerly—that is to say, are there now performed more or fewer of the operations to which LAWRENCE referred: more amputations, for instance, *pro ratâ* than formerly? Of the new operations it is not fair to speak. Ovariotomy was unknown, and, with many other new operations, must be left out of count, though no one will argue that a successful ovariotomy is not an unmixed triumph, notwithstanding that medical treatment has failed. And herein lies, as it appears to us, the characteristic of modern surgery as understood to-day an increase in scope rather than in number or method of operations. Amputations remain much as they were, and the removal of tumours also has undergone little or no change. It is rather in the after-treatment that modern surgery comes in with its beneficent discoveries, and prevents patients from poisoning themselves and their neighbours with the foul discharges that were once con-

sidered part and parcel of the operation. It is this same knowledge of septic inflammation, its causes, its consequences, and the means of preventing them, that has enabled surgeons so largely to widen the range and scope of surgical proceedings. Amputations after compound fracture are fewer in proportion to the total cases than at any previous time, and this is entirely because the sources of danger are better understood than formerly. In such cases as these surely there can be no question of medical treatment, nor can there be any reproach in adopting surgical remedies in preference to therapeutic ones. Would it not be equally just to say that the fact of therapeutic measures being necessary is an admission that common sense has failed to arrest the disease, or has failed to keep clear of an accident? It thus appears to us that whether we adopt medicine or surgery depends on the nature of the case. It would seem that "medical surgery" is chiefly indicated in disordered function, and that surgery proper is the remedy for diseased or injured tissue. The one has to be set right, the other has to be removed: precious time is only too often wasted in trying therapeutic measures, when radical surgery can alone be of any avail.

Mr. ERICHSEN arrives at the conclusion that we have reached finality in the mechanical art of surgery both as to the expansion of its limits and the precision of its practice, and points out that further advances are to be sought not on the old lines, but rather in applying to it lessons which can only be learnt in the pathological laboratory. With the last of these conclusions we fully agree, but we doubt very much whether the mechanical side has been as fully developed as it is capable of. Indeed if it were so, would not surgery have obtained finality? The lessons of the laboratory are not surgery—they are science, and can only be applied usefully to the cure of disease by the mechanical arts which really constitute surgery. When we look back even on the past year only, we must recognise that science is ahead of surgery in many respects, and that she has already pointed out directions in which surgeons may successfully labour, provided only they can bring the necessary mechanical skill to bear. It would indeed be discouraging if practical surgery were already approaching finality. We venture to hope the contrary, and even to think that there is room for a vast amount of improvement. It will indeed be strange if, with the increased number of hospitals all over the country, the improved education of students, the great mechanical skill which is now available for the manufacture of surgical appliances, we do not continue to see fresh mechanical developments in the manipulative part of surgery. We can hardly think that surgical instruments or surgical dressings have reached their highest development. In ovariotomy, for instance, it was believed for a time that the use of LISTER'S antiseptic method had reduced the mortality of the operation to the lowest possible point, until it was shown that greater experience and skill in mechanical details could achieve, even without Listerism, ever improving results.

We make these observations less because we differ from Mr. ERICHSEN than because we hold that it will never do to minimise the great importance of mechanical skill and mechanical detail in surgery. Surgery is essentially an art; modern investigations are beginnin to ntroduce a strong element of science. But, notwithstanding, surgery proper is only the mechanical application of science to the cure and prevention of disease; and the mechanical art must always be largely fostered and developed by anyone who would desire to become a truly great surgeon. Nor can we quite bring ourselves to think that surgery has reached finality as regards its limits. There are still several regions of the body for which surgical help is often wanted, and which, we believe, will sooner or later come within the limits of legitimate surgery. Thus, the lungs have only recently come to be regarded as susceptible of benefit from surgical treatment, and very much yet remains to be done before surgeons will be able to boast of their results. It is known that animals have survived the removal of an entire lung, and it may one day come to be equally well known that the human subject is able to bear such an operation as well as the lower animals. The spleen too has been removed successfully, but splenic surgery is still in its infancy; so also is liver surgery, a subject touched upon, but not greatly elucidated, at Brighton last week. Thus, it cannot be denied that very much remains to be done, of work which is largely mechanical, before these organs can be placed on the same footing, when diseased, as the ovaries, or even the brain.

AMONGST the many features at the recent meeting of the British Medical Association, none were more interesting or commendable than the discussion on cases in which disease of the valves of the heart has been known to exist for upwards of five years without causing serious symptoms. The discussion was opened by Sir ANDREW CLARK, who never spoke to greater advantage. The difficulty of compactness, where the number of cases and the number of ideas to be dealt with were so great, will appear the more clearly the more it is considered, and when we remember the little leisure that Sir ANDREW can have for either making notes or summarising conclusions or impressions, we are disposed to highly commend his discourse at Brighton. The notes of cases of valvular disease on which the discourse was based extended over a period of fifteen years. The number of cases was no less than 684. These were without serious cardiac symptoms. It is interesting to notice for what purpose these patients found their way to Sir ANDREW CLARK. He gave the following particulars: 272 complained of indigestion, 57 of rheumatism, 22 of gout, 44 of nervous ailments, 17 of eczema, and 4 of phthisis. Other persons with cardiac murmurs suffer even more slightly than these, and so pass through years of life without having their heart murmurs detected; for which, as Dr. BRISTOWE seemed to think, there is something to be said. He said that many people were made miserable through the discovery by doctors of cardiac murmurs, of which they had no previous knowledge or symptoms, and he very shrewdly said that though he was disposed to think himself quite sound in a cardiac sense, he would be very sorry to invite the criticism of Sir ANDREW CLARK or Dr. GAIRDNER. Medical men have themselves to blame very largely for the exaggerated fears of heart disease entertained by many, and for an exaggerated objection to have their hearts examined. The stethoscope is a handy thing, and the detection of a murmur not a very difficult operation. Some physicians, more intent on making a show of their own art than a study of

the patient's welfare, have been ready to magnify their little and cheap discoveries. The late Dr. STOKES used to tell, with strong disapproval, of a physician who, on detecting a murmur in the heart of a distinguished and useful public man, said, "Sir, I hear your death knell." Such a prognosis fulfils itself—as it did quickly in this case, though previously the patient was apparently in good health,—and the man dies, not of the cardiac disease, but of the nervous shock, literally of his physician. The great value of the discussion raised by Sir ANDREW CLARK, and most ably sustained by Dr. GAIRDNER, Dr. CLIFFORD ALLBUTT, Dr. BRISTOWE, and others, was not so much in any novelty of discovery announced, as in the evidence afforded by it of the wider and wiser view of disease taken by physicians and by all good practitioners, and of their perception of the fact that the run of people with heart disease do not fare very much worse than other people, if they only have the sense to consult sensible medical men and follow their advice. We heartily endorse Sir ANDREW CLARK'S teaching and that of the other distinguished authorities whom we have mentioned, and we bespeak for patients with heart disease, but with common sense and with due respect for medical teaching, more comfort from the profession than they have sometimes received. Let their common ailments be cured, let their diathesis be considered, let their intelligence be appealed to as to the best way of preserving their health and improving the muscular tissue of their heart as of their limbs, let Dr. ALLBUTT'S shrewd remarks as to the specially injurious effects of alcohol on the heart tissue, and Sir ANDREW'S exposure of the folly of over-eating and drinking, be duly pondered, and valvular disease will lose half its terrors. It is half—it is two-thirds—of the duty of a physician to find out the favourable facts about disease. He is not a mere pathologist, a mere hearer of murmurs. We cannot have absolutely healthy bodies; few of us have. Nearly all great works are done by those in whose health there is a flaw, to be detected, perhaps, but not to be magnified, "rather to be healed." As physicians cultivate this view of their calling men will flock to them for comfort and for guidance. Faulty men will not evade them, even if they happen to be physicians to life insurance offices, who have lessons to learn from the recent discussion at Brighton.

SOME two years ago Dr. VICTOR C. VAUGHAN, Professor of Physiological Chemistry to the University of Michigan, succeeded in isolating from some samples of cheese which had produced alarming symptoms in several persons a highly poisonous ptomaine, to which the name of tyrotoxicon was given. The effects of the poison were demonstrated on the investigator and several students, amongst whom dryness and constriction of the fauces, nausea, retching, vomiting, and purging were produced. Last November Dr. VAUGHAN succeeded in isolating the same poison from a sample of milk which had been tightly closed up for about six months, the appearance and effects of the poison being the same as in the previous experiments. Dr. VAUGHAN then placed samples of normal milk in his workroom, testing them from time to time. After about three months the poison was obtained from one of the bottles after certain processes, such as filtration, the rendering of the filtrate alkaline, and agitation with ether, the final outcome being that on evaporation the crystalline substance in question was left. A solution being made of the substance, ten drops were placed in the mouth of a dog three weeks old, and within a few minutes frothing at the mouth, retching, vomiting, muscular spasm of the abdominal walls, and subsequently watery stools were the result.

Following on this experience, Dr. VAUGHAN received a sample of melted ice-cream which had seriously affected eighteen persons who had partaken of it. The ice-cream had been flavoured with vanilla, and since those who had preferred lemon ice-cream had escaped any untoward results, it was at first assumed that the mischief was due to the vanilla. But experiments on individuals and otherwise showed that this was not the case. The cream substance itself being then tested in the same way as had formerly been done in the case of the tyrotoxicon, the aqueous solution, after spontaneous evaporation of the ether, was given to a cat two months old, with the result that in ten minutes retching, vomiting, and nearly all the symptoms already described supervened. The cat being subsequently killed, the stomach and small intestines were found to be full of a frothy serous fluid, but there was no local redness, and the organs examined appeared normal. A description of the symptoms which those who had consumed the ice-cream had suffered was later on received, and it is evident that they agreed closely with those observed in the cat, and that, in addition, occipital pain, excruciating back-ache, and in some cases stupefaction, dizziness, and numbness, were experienced. The throats of all were also œdematous, and the pulse varied from 90 to 120.

Dr. VAUGHAN holds that he had already shown that tyrotoxicon can be developed in normal milk in a period of three months, but that it now appears the development may take place much earlier; the production of the ptomaine being in all probability due, either directly or indirectly, to the growth of some micro-organism. As yet the poison has not been obtained in sufficient quantity to enable an ultimate analysis to be made of it; but it is asserted that it is, without doubt, a chemical body produced by fermentation. Further experiments, including the administration of the materials resulting from them to animals, go, however, to show that the production of the poison is in no way related to the ordinary decomposition of milk.

As regards the ice-cream in question, details are supplied as to its manufacture, and it appears that there was no difference in the preparation of the vanilla and the lemon ices except in the flavouring, both being made from a sample of milk obtained from the same cows, the milk from all the cows being mixed before the custard for both ices was made. But the lemon cream was frozen some time before the vanilla cream. A further experiment was next made with a small hardened lump of the substance sent for analysis. It had been left on the filter paper, and it was mixed with cream and eggs and made up into a custard in the same way as had been carried out with the original custard, and it was then placed in a refrigerator. A filtrate was subsequently prepared of a portion of it in a similar manner to that adopted in the original analysis, and the residue on the evaporation of the ether was dissolved in water and given to a kitten about two

months old, the result being the immediate production of symptoms resembling poisoning by tyrotoxicon. The experimenter himself partook of some, and was seized with nausea, vomiting, griping, &c. Reviewing his several experiments, Dr. VAUGHAN is of opinion that the fermentation going on in the custard, and probably begun in the milk, was arrested in that part flavoured with lemon by the freezing, which was begun immediately. But while the lemon cream was being frozen, that part of the custard which was to be made into vanilla cream continued to ferment, and before the freezing process was begun enough of the poison was generated to seriously affect those partaking of it.

This series of experiments is of importance in more than one sense, and one of these is referred to in some detail by Dr. VAUGHAN. He finds a great similarity between the symptoms of poisoning by tyrotoxicon and the symptoms produced in the human subject during certain diarrhœal epidemics. He especially refers to cholera infantum, and notes that this latter disease has a tendency to occur mainly at a time when decomposition of milk takes place most readily, and amongst persons whose surroundings are most favourable to fermentative changes, and he seems inclined to connect the infantile complaint with the production of tyrotoxicon generated from dried milk along the seam of a tin pail, or in a rubber nipple or tube, or in a nursing bottle. One thing is certain, that in this country cholera infantum, or fatal infantile diarrhœa, is due in many places to conditions quite apart from those of feeding; and whilst we would by no means exclude such a cause as Dr. VAUGHAN indicates from being at times one of those tending to the production of the disease he refers to, yet we should rather have looked for some such explanation as he offers in those groups of cases in which poisoning by articles of diet has occurred independently of infantile diarrhœa. The production of poisonous alkaloids, and their effects in causing sudden and serious symptoms in the human subject, is a matter calling for further study on both sides of the Atlantic.

THERE is no more interesting subject of study than that of the modes of causation of movements. Experimental investigation has given, and bids fair yet to give, results of no mean value. We have before us a paper entitled "Experiments on the Character of the Muscular Contractions which are evoked by Excitation of the various parts of the Motor Tract." It gives a succinct account of the researches carried out by Messrs. VICTOR HORSLEY and E. A. SCHAEFER at the Physiological Laboratory, University College, London.

The motor tract may be divided into four parts: (1) The cortical centres in the grey matter, the well-known motor region; (2) the fibres proceeding thence along the corona radiata; (3) the same paths in the spinal cord, together with the spinal motor centres in the anterior horns; and (4) the peripheral continuation in the anterior roots and efferent fibres to the muscles. The experimenters have found that all these portions are excitable by electricity; electrical excitation always evoking contractions of the skeletal muscles, provided only that the degree of anæsthesia be not too deep, or the nervous matter exhausted by repeated stimulation or other extraneous circumstances. In all the experiments the observers named have commenced by recording the contractions which result from excitation of the cerebral cortex, and the epileptoid contractions by which, in many cases, they are succeeded. The excitations were made at the rate of fifty, decreasing to forty, per second, and consisted of induction shocks obtained by varying the current of one or two Daniell elements sent through the primary coil of a Du Bois sliding inductorium; the variations were effected by the short-circuiting of the current by means of a vibrating metallic reed, which is kept in motion by an electro-magnet and the point of which dips in and out of a cup of mercury. After the tracings have been obtained from the cortex, this has been removed, and stimulation of the corona radiata practised. Then the spinal cord has been exposed and cut in the dorsal region, the excitations being repeated at the same rate upon the distal cut end. Finally, in a few instances the observations were completed by cutting and stimulating the peripheral end of the motor nerve.

FRANCK and PITRES and others have asserted that each excitation of the motor tract is translated by a single muscular contraction; so that twenty excitations per second would be recorded on the moving paper as twenty waves of muscular contraction. With above forty strokes per second a tetanic condition is produced in which it is impossible or very difficult to recognise the influence of the individual excitations. Messrs. HORSLEY and SCHAEFER have discovered that this rule does not hold good, at least as far as the first three divisions of the motor tract are concerned. The rhythm of muscular response to electrical excitation of the nerve centres is the same whether the electricity be applied to the grey matter of the cerebral cortex, or to the fibres thence proceeding, or to the spinal cord. The rate of the muscular rhythm is not the same as that of the excitation, except when the number of electrical excitations is less than eleven per second. It seems that some number of excitations above ten per second is required to make the rate of discharge from nerve centres as frequent as possible, and that, increase the rate of excitation as much as we may, we cannot get, so far as is known, by legitimate means, the motor centres to discharge their energy at any other rate than that of their own. This is indeed a most instructive law, and one which must open new ground, whilst enlarging our conceptions of the mode of action of the nervous system. It is further stated that the rhythm of muscular response in the case of voluntary contractions, and also of reflex ones, is essentially the same as that which results from the electrical excitation of the nerve centres. Again, it is asserted that the rate of muscular response in all cases of after-excitation (whether distinctly epileptoid in their nature or not) is fundamentally the same as that of voluntary and reflex contractions and of contractions immediately produced by a rapidly recurring electrical excitation, but the response in the case of epilepsy may present an apparent difference.

The principal conclusion to be drawn from these results, which have been supplemented by numerous observations on the voluntary and epileptoid contractions of man, seems to be best formulated thus: That every prolonged contraction of the skeletal muscles which is provoked by no matter what kind of excitation of any part of the nerve centres is a tetanic contraction which has been produced by

a series of impulses generated in the nerve centres, and passing along the motor nerves at an average rate of about ten per second.

If these observations be true—and there is every reason to be satisfied that they are,—we find ourselves in possession of information which is of the highest scientific importance. Certain questions remain to be answered. It is said that forty electrical excitations of the fibres of the corona radiata generally give only ten muscular twitches, fused into a tetanus, or we may safely say only ten motor nerve impulses. Whereabouts does this transformation of forty into ten take place? Obviously in the spinal motor centres. There must be in them a mechanism for the summation of nerve impulses, or else for the regulation in some other method of the numerous afferent impulses. The question whether the cortical motor centres have a rhythmical rate of discharge is not yet settled, though the fact that in some individuals the automatic action of the cortical centres (as the authors physiologically describe a voluntary contraction) may occasionally produce a muscular response of twelve or thirteen, or even more per second, whereas the automatic action of the nerve cells of the spinal cord appears to be never capable of originating a rhythm of greater frequency than ten per second, lends a probability to this hypothesis.

If the motor centres have a normal rate of discharge, is it too much to suppose that a similar law prevails for the sensory centres? Is not the sensation of tingling composed of vibrations having a regular rhythm?

THE summer is advancing, and as yet we are unvisited by the dreadful guest which threatened us. The cholera has been for some time unpleasantly near us—now in Spain, now in France, and now in Italy. No one can tell that even now it may not swoop upon us, as it has so often done before, without warning and without pre-recognised cause. With all our modern science the disease still remains mysterious, baffling dogmatic teaching and throwing us back incessantly upon the few certain facts we have gained. The hypothesis of zymotic origin and propagation has certainly been strengthened by scientific study, but it cannot even now be said to have arrived at the position of a theory, and its admission leaves much still to be accounted for. What we do know for certain is, that some kind of seed or virus is invariably, or, at any rate, commonly, present, and that this seed, or whatever we may please to call it, develops under certain conditions as yet imperfectly known, and does not develop under others. There seems no doubt that the disease may be spread by what looks like contagion, as in certain hospitals and ships, by the air, as in the memorable case of Southampton, reported on by the late Professor PARKES, and above all by water, in regard to which there are endless examples, beginning with the celebrated Golden-square case, and extending to the terrible epidemic in Spain last year. It is generally admitted that water is the most potent and perhaps the most frequent agent for the propagation of the disease, but it is certainly not the only one, for cholera spread through Southampton in spite of an excellent water-supply, and it has been known to commit havoc on board a ship supplied only with distilled water.

For the present public fear is at rest. We are well into August, and the cholera has not come. Every week brings us nearer to safety, and we, like the rest of the world, trust not a little to the chapter of accidents. Only one thing could rouse us, and that is a single case of undoubted cholera. Such an event, which might happen any day would at once cause a panic. It would then be discovered that all kinds of sanitary evils existed in our midst, that our river was a cesspool, our water-supply imperfect and most imperfectly guarded, and that our guardians were ignorant and inert, and deserved impeachment. A torrent of gross exaggeration would set in, and probably a measure of more or less frantic zeal would be passed in a hurry. All this has happened so often before, that its repetition in the next panic may be counted upon as a certainty. We always forget easily the lessons taught by calamities that have passed.

In contrast with this *laissez-faire* system, this contented waiting for the sharp lesson of experience so often taught before, it is our duty once more to urge the necessity of doing something before the danger arises. It is, we presume, useless to call attention again to the condition of the Thames and its tributaries, for each of them is undergoing a process of tinkering which will certainly be accepted as reformation unless some really great voice makes itself heard in Parliament and by the country. But it does not seem equally hopeless to beg that one simple matter may be attended to at once during the remaining short period of the year in which the danger is urgent. The intakes of our great Water Companies in London and many other towns ought to be guarded with the utmost vigilance. We will not at present discuss again the question whether these intakes are in themselves satisfactory. Let us assume that they are, that the Thames and Lea in London and the queer gathering grounds of Hastings are in ordinary times all that could be wished. The question still remains whether they are not liable through mere carelessness to a sudden pollution, compared with which the introduction of arsenic into a house-well would be a mere bagatelle. A few illustrations will serve to show the danger. The water of the Thames above Hampton is, let us say, perfect, but the river is a highway for trade and pleasure; many house-boats are moored nightly in it during the summer months, and a great number of barges—which are to all intents and purposes house-boats—pass up and down every day. We have no wish to figure as alarmists, but is it not obvious that any simple case of cholera—or even of choleraic diarrhœa, which seems to be sometimes almost as venomous as cholera—occurring on any one of these boats in the neighbourhood of the intakes may infect with a horrible poison a large portion of the water-supply of the metropolis? It is certain that no filtration after so recent an infection could render the water safe.

Those who wish for further information in regard to the spread of cholera by drinking-water should read the admirable article contributed to *Nature* on June 17th, 1886, by Mr. GEORGE HIGGIN. In that article the whole history of the cholera epidemic in Spain in 1884 and 1885 is given with remarkable lucidity, and its close connexion with water-supply is fully proved. The evidence is over-

whelming. Cities of bad sanitary repute but with good water-supplies escaped or were lightly touched, while others, such as Valencia, which were cleaner and better drained, but supplied with polluted water, suffered frightfully. So evident, indeed, was the connexion between infected water and cholera that in some towns—notably in Madrid, Toledo, and Seville—the doubtful sources were closed by public edict, and the pure supply was even patrolled day and night by armed guards to prevent the possibility of accidental pollution. These precautions seem to have been in every case successful.

Annotations.

"Ne quid nimis."

HEALTH OF ENGLISH WATERING-PLACES.

THE statistics bearing upon the recent health of English watering-places published in the Registrar-General's Quarterly Return, just issued, must afford considerable satisfaction to the thousands who are now migrating from our large towns to these holiday resorts. It appears that the mean annual death-rate during the three months ending June last among the more than a million of the resident population of forty-six seaside and inland watering-places of England and Wales did not exceed 15·6 per 1000. This rate was 2·4 below the general rate in the whole of England and Wales, and 1·9 below the mean rate among the nearly eleven millions of persons living in the rural districts, comprising the country parishes with their small towns and villages. With regard to the zymotic mortality in these watering-places, the report is scarcely less satisfactory. The annual death-rate from the principal zymotic diseases in these forty-six holiday resorts was 0·97, against 1·55, the mean rate in England and Wales, and 1·36 in England and Wales exclusive of the seventy-eight large towns. No zymotic diseases were registered during the quarter in Weston-super-Mare or in Tenby, while the rates in the other watering-places ranged upwards from 0·22 and 0·23 in Torquay and Whitby, to 2·11 in Eastbourne, 2·15 in Southend, 2·16 in Folkestone, and 2·63 in Herne Bay. In most cases in which the zymotic death-rate showed an excess this was due to the epidemic prevalence (during the three months ending June last) of measles or of whooping-cough. Measles was somewhat fatally prevalent in Hastings, Exmouth, and Blackpool; whooping-cough in Scarborough, Lowestoft, Folkestone, Eastbourne, and Worthing; scarlet fever caused 6 deaths in Yarmouth; and diphtheria mortality showed an excess in Southend, Folkestone, Rhyl, and Blackpool. It should also be stated that "fever," principally enteric, caused an exceptionally high death-rate in the watering-places on the Kentish coast, especially in the Isle of Thanet and in Dover. It should be borne in mind that the Registrar-General's figures afford no information of more recent date than the end of June, since which it is quite possible, for instance, that the outbreak of "fever" in the Isle of Thanet, which appears to have about equally affected the registration subdistricts of Margate and Ramsgate, has entirely disappeared. It would be judicious and useful to intending visitors if watering-places at this season of the year published monthly health bulletins readily accessible to the public. The health of English watering-places has now reached a general standard, and their reputation has most to gain from publicity and most to fear from false reports arising from the difficulty of getting promptly authentic information respecting their health and mortality statistics.

THE HAPPINESS OF "ANIMALS."

IT seems to us that a great fallacy underlies the interrogative proposition "Are animals happy?" and that the whole controversy arising out of the question raised by Mr. Cargill in the *Nineteenth Century*, together with any conclusions which have been arrived at, must be vitiated thereby. Practically the proposition amounts to this: man may be happy as an animal, and being thus happy, the question arises whether he is the happier or less happy because he has a bigger and better brain; or, to put the question in an inverted form, as Mr. Cargill would probably prefer to put it, "Are those animals which have less brain-power than man more or less happy than he?" The inquiry resolves itself into an endeavour to distinguish between the lower sensory and the higher cerebral forms of consciousness. If we were to cast this into a scientific form, it would be proximately, though not absolutely, accurate to say that one part of the experience of happiness depends on the activity of the cerebrum and the other on the functional energy of the sympathetic ganglia, and that the comparative prominence of these several sources of the experience of happiness is really what Mr. Cargill has been trying to determine. In like manner, one part of happiness depends on the absence of pain or irritation, and another on the sensation of what we call pleasure. In short, the search for any fixed point in the investigation pursued on the lines laid down by Mr. Cargill is fruitless. To speak frankly, the author does not possess that acquaintance with his subject which is indispensable to the prosecution of the inquiry he has instituted. Animals, including man, are happy—first in inverse proportion to their unhappiness by reason of a sense of suffering or the consciousness of need; and, secondly, in direct proportion to their capacities and opportunities for active pleasure. We have no means of knowing how much or how little of the so-called "happiness" of animals is negative or positive, or "physical" or "mental"—to use terms which are not definitive. The most we can do is to argue from the known to the unknown on the line of personal experience and assumed analogy. We can only judge of the consciousness of the speechless animals by their behaviour. It is possibly right to assume that, when a dog wags his tail and barks on being allowed to run loose, he is happy; but he also wags his tail and barks when he is eagerly awaiting the piece of meat which is being dangled before him. It may be the delight of anticipation which prompts him to express himself in this way, but there is no absolute proof that it is. Again, it is doubtless fair to assume that, if a bird chirps and hops about briskly, it is happy; but there is nothing to show that it is less happy when sitting quietly perched on a twig. We are only approximately right in inferring happiness from what is called "liveliness." Children are generally brisk when they are happy, but they are not always miserable when they are quiet. We fail to perceive the purpose of the investigation or to understand what is to be gained by it. Beyond question, very much of the happiness of mankind, and presumably also of the lower animals, is connected with the gratification of instinctive cravings and the avoidance of such suffering as results from unsatisfied needs. Hunger and thirst are distressing, and cause unhappiness; the appeasing of hunger and the assuaging of thirst give happiness because they put an end to unhappiness. Appetite and taste are diminutives of the sensation of hunger; and doubtless these are spread out and elaborated by development, so that degrees of appetite and specialties or refinements of taste minister to the sense of enjoyment both in anticipation and in fact. In this way the higher, or more highly developed, animal has

an advantage over the lower, or less developed, animal in the matter of powers and occasions of happiness; but collaterally, and in directly inverse ratio with the powers and capacities of being happy, are the powers and capacities of being unhappy. Whether the good outweighs the evil is a question, not of difference between "animals" and "man," but of fact, to be estimated, if at all, by experience and observation. If animals are happier, or less unhappy, than man, we should incline to think that the preponderance in their favour is mainly due to the immunity they enjoy from distrust of the future. He would be a bold man who should say that the human consciousness is presently the happier for its possession of powers and capacities of looking forward; but even in this respect the question is one of degree; for the dog that begs, and hopes, and licks his lips in anticipation of the morsel of food held before him probably enjoys a pleasure akin to that of the man who exults in the hope of future happiness. Meanwhile the dog runs merrily into the lethal chamber of death, and the sheep, unless he sees or smells blood, does not recoil from the slaughter-house; whereas man through fear of death is in bondage, and lives sadly for years because he must some day die. Doubtless this great drawback of our intellectual development, and what is called "enlightenment," is a fruit of our teaching and training; but that it is widespread throughout the human race cannot be questioned, and that it is a serious cause of unhappiness to the majority of men no one will venture to deny.

PROGRESSIVE PERNICIOUS ANÆMIA AND BOTHRIOCEPHALUS LATUS.

SINCE Biermer first described certain forms of anæmia which differed from those commonly observed in their progressive and serious character, the term "progressive pernicious anæmia" has found a place in our nosological nomenclature; but at first sight it seems strange that a disease which, in the form most commonly seen, is mild and easily amenable to treatment should now and again resist all our efforts, and slowly but surely tend to a fatal termination. Many authors doubt the existence of this particular malady, and the standard French authority, Jaccoud, regards it as possibly only an exceptionally grave form of the ordinary chlorosis or connected with a chlorotic cachexia. Any contribution which tends to increase our knowledge of the disease is much to be desired. An important step in this direction has been made in a paper in the June number of the *Deutsches Archiv für Klin. Med.*, in an interesting paper by Dr. Reyher of Dorpat, in which an obvious and tangible cause was found in thirteen cases presenting all the appearance of this disease. The etiological factor in these cases was bothriocephalus latus, which had taken up its abode in the alimentary canal, and which had obviously been the cause of the anæmia and accompanying state of disease, since on the removal of the worm the symptoms disappeared and health was quickly restored by the exhibition of simple remedies. Whether all cases of pernicious anæmia will in future be found to have a similar causation now that attention is directed to the point is doubtful; but the importance of the fact that cases appearing in all respects typical have been found to be due to the presence of internal parasites is great, and the medical man in presence of a diagnosis of pernicious progressive anæmia will do well to remember that such cases have been described, and he will take steps to ascertain whether in any given case such may not be the etiological factor, the discovery of which is so important both for prognosis and treatment. In most of the cases the presence of worms was unsuspected until attention was called to it by the appearance of fragments in the stools, or by questioning the patient as to whether such had at any time been seen. To give an idea of the cases we will briefly describe the author's first case:—The patient was a woman sixty-six years of age, who presented herself in a state of extreme debility and anæmia, which had continued for a year and a quarter and steadily gone on increasing during this time in spite of the fact that she had been under the treatment of several medical men. From the absence of evidence of internal disease, the duration of the symptoms, and the great severity of the anæmia and debility, the diagnosis of pernicious anæmia was made, and treatment was directed to a diarrhœa which was evidently exhausting the patient, but after a short period of time portions of a flatworm appeared in the stools, and with the exhibition of filix a complete bothriocephalus latus was expelled, head and all. From this date all the symptoms rapidly ameliorated, and in a few weeks complete health was restored, and the patient could go about her household duties. This mere sketch of a case will serve to indicate the lines on which the others run. In all, the anæmia and its accompanying symptoms disappeared after the expulsion of a bothriocephalus, and simple tonic treatment completed the cure.

THE WINDSOR TOWN IMPROVEMENT SCHEME.

AFTER four months' silence the possibility of improving the town of Windsor has again been discussed by the Town Council. The town clerk made a report, from which we gather that it will be necessary to acquire Parliamentary powers. After a very long discussion, it was decided that an expert should be consulted and requested to report as to the probable cost of obtaining an Act of Parliament granting compulsory powers to purchase: that is all. Even if the Act be ultimately obtained, we fail to detect in the scheme submitted any clause dealing with the gravest sanitary defects of the town. Windsor will be beautified, doubtless, its approaches rendered more worthy of a Royal borough which tourists from all parts of the world are in the habit of visiting; and there is to be a promenade along the banks of the Thames. The widening of the top of Bier-lane and the cutting through of Garden-court (a slum to the rear of Bier-lane) are the principal sanitary advantages. This will not suffice to redeem the reputation of Windsor. These are not the worst parts of the borough. It is far more urgent to do away with South-place, especially that side of the street where the houses have no back windows, no back yards, and no closets. One or two artisans' dwellings would take all the population now crowded in low and small cottages, such as those of the continuation of South-place, called Charles-place and Charles-street, where there have recently been cases of small-pox. These cottages take up much room just where there is no land to spare, and give very little accommodation. If Parliamentary powers must be obtained, a bold and thorough scheme should be put forward. By purchasing all the bad property the town could rebuild on the sites acquired houses that would let at such prices as to provide the means for an easy redemption of the debt. Windsor would thus possess in time a constant and rich source of income. Why look to rates, when rents are so much more profitable? The financial difficulties can be overcome more quickly by collecting rents instead of rates, and it would be easier for the town to keep its own property in sanitary order than to compel a number of small leaseholders and freeholders to see to the necessary repairs. Mr. Oberlin-Harris said, in the course of the discussion, that Windsor "meant to stand well in the eyes of the world, and prove that she really was a thoroughly healthy town. They knew that there was a tide in the affairs of men, and they knew, also, that there was a tide in

the affairs of the town, when they should take things and lift them up to a higher level." These are brave words, and should be taken to heart by every inhabitant of Windsor; and we would urge that it is high time such action should be taken as to no longer give any occasion of complaint or criticism. To the credit of the Town Council be it said, a vote of six to four was given in favour of consulting an expert on the improvement scheme. This is but a beginning, but still it is better than the "masterly inactivity" which has previously characterised that body.

MEDICAL WORKS AND THE LAW OF COPYRIGHT.

THE unfortunate state of international law as regards copyright is well illustrated by what has happened with regard to Dr. Dickinson's third volume on Renal Diseases, and which is most ably and kindly exposed by the Editor of the *American Medical Journal*. As issued by Longmans, this volume, which represents ten years of Dr. Dickinson's best work, contains 689 pages. It has been issued in New York as the August (1885) number of a "Library of Standard Medical Authors." In this mutilated form there are but 337 pages! This is significant enough, but the extent of the evisceration can only be understood by some instances given. Illustrations and cases are omitted wholesale, while it is coolly said that such omissions in no way interfere with the continuity of the work. In the chapter on Chyluria alone, thirteen and one-third consecutive pages of clinical report have been omitted, including two valuable tables. A case received into Guy's, in which two drachms of corrosive sublimate had been taken, is given without mentioning that the patient had suppression of urine or that he lived four days, and the facts of the post-mortem are omitted, of course without harm to the reader, who supposes he is getting Dr. Dickinson's careful work. We thank our American contemporary in the name of English journalists and publishers for the criticism. We sympathise deeply with Dr. Dickinson in seeing his great work thus misrepresented, and we feel sure that all visitors from the United States will join us in denouncing a system which is unjust equally to American readers and to honest and hard-working English authors.

LOSS OF WEIGHT IN EPILEPSY.

DR. F. HALLAGER, assistant-physician to the lunatic asylum at Viborg, has endeavoured to find an explanation of the diminution of the weight of the body after an epileptic attack. Kowalewsky was the first to draw attention to this fact. He states "that all persons suffering from any form of epilepsy lose in weight after each attack." "This occurrence is not equally great in every case, but depends on the duration of the disease and the intensity of the attack. The loss of weight is greatest after the first attack of a series of epileptic fits." Dr. Hallager has drawn up a table indicating the weight of the body and the quantity of urine and fæces excreted by the patients each day during his researches. Solid or liquid nourishment was given to the patients in proportion to the frequency and violence of the attacks. By a chart accompanying the paper in the *Nordisk. Med. Arkiv* it appears that whenever the curve of weight is considerably depressed after an attack there is also a corresponding elevation in the urine curve, of which no explanation is afforded by any increase of diet. When a loss of several pounds takes place, it is owing to the secretion of an abnormal quantity of urine. Dr. Hallager has been unable to determine whether the production of urea is also increased by the attack, but he believes the increased formation of urea is not sufficiently great to be of importance in the loss of weight. The diminution of weight caused by an epileptic attack he considers to be due to an increased secretion of urine after the fit. M. Kowalewsky insisted that psychic epilepsy, as well as the *grand* and *petit mal*, is followed by a diminution of weight. This is contrary to Dr. Hallager's opinion, who believes that there is no diminution during this psychic state except when the patient refuses all nourishment, and that the quantity of urine secreted is much less than normal. This is no doubt due to a reaction after the preceding augmentation. The fact that psychic troubles of an epileptic origin (especially when of long duration) may, like other maladies, cause a loss of weight is natural; but this loss which arises from general emaciation, has nothing in common with the diminution of weight after an epileptic attack, which results from a diminution of the quantity of water in the body, due to preceding augmentation of urine.

LONDON DUSTBINS.

DR. DANIELL, chairman of the Wharves and Plant Committee of the Kensington vestry, calls our attention to a paragraph in our last number on this subject, which appears to imply that the vestry still trust to contractors for the removal of house refuse. The difficulty the vestry have to overcome is not that of removal, which is in their own hands, but that of disposal of the refuse after its collection; and this difficulty, Dr. Daniell tells us, is hourly increasing. We trust the special committee recently appointed will see their way to recommending a method which will finally solve this problem, and set an example which other parishes may with benefit copy. Mr. J. W. Wood, of Liverpool, writing on the same subject, tells us that he has invented and patented a dustbin which can be used in houses, where the dust can be removed from a passage behind the house and emptied immediately into the dust-cart without incurring the risk of dropping the refuse or the necessity of temporarily depositing it on the ground. The apparatus will be exhibited in a few days at the Liverpool Exhibition, and from the description appears well calculated to answer its purpose.

THE INFLUENCE OF SMALL-POX HOSPITALS.

DR. TRIPE, in his last annual report to the Board of Works for the Hackney District, recurs to the subject of the diffusion of the small-pox infection around the Homerton Hospital. During 1883-84 there had, quite apart from the actual treatment of cases in the hospital, been a large traffic in small-pox patients to and from the hospital on their way to the hospital-ships, as many as 859 cases being thus removed in one single month. In the year now dealt with—namely, 1884-85—the largest number per month was 113, and it is believed that all these had received treatment in the hospital. With this diminution of cases the amount of spread around the hospital has also diminished; but still Dr. Tripe is able to show, by means of a map and of tables, that the rate of attack from small-pox is, as heretofore, more prevalent within the quarter- and half-mile radius around the hospital than elsewhere in his district; and he is further of opinion that the risk to a locality in which such a hospital is placed is not to be measured only by the number under treatment at any one time, but partly by the number moved to and from the hospital. Dr. Tripe also considers that the evidence adduced by Mr. Power as to the probability of the disease being spread through the air when only some nine or ten patients are under treatment is very strong, although it does not follow that similar results would ensue on every such limited aggregation. Here he is in entire accord with Mr. Power, who has all along indicated that other considerations, such as meteorological conditions, probably have a strong bearing upon the case. But as to the

reality of aerial infection Dr. Tripe has no doubt, and he takes the opportunity of stating his belief that the large ward system at present in use in the Asylums Board hospitals is more likely to be injurious than small wards containing only four or six patients. And if this be so—and we are entirely in accord with Dr. Tripe—what must be the effect of large aggregations of small-pox patients, such as are even now being contemplated? The fact is that we have come to a point in the history of small-pox in which it becomes important to learn whether some of our small-pox hospitals, and especially those within the metropolitan area, are not, as at present organised, tending rather to secure the maintenance of the infection in our midst than to get rid of it. Dr. Tripe very properly says that the whole question requires much more investigation. This investigation can only be properly made by the medical staff of the Local Government Board, and, looking to the responsibility of that Board as to the doings of the Metropolitan Asylums Board, it is certainly time that a complete and searching inquiry should be made into the behaviour of small-pox, as influenced by the hospitals maintained for the purposes of the metropolis.

THE NINTH INTERNATIONAL CONGRESS.

CIRCULAR No. 2 is issued by order of the Executive Committee. The Congress will meet in the city of Washington, the capital of the United States, on Monday, Sept. 5th, at noon. The patrons of the Conference will be the President of the United States (the Hon. Grover Cleveland), the Secretary of State (the Hon. Thos. F. Bayard), the Presidents, respectively, of the Senate of the United States, and the Speaker of the House of Representatives. The President of the Congress will be Dr. Nathan S. Davis, Professor of Medicine, Chicago. Our own British Schools will be well represented, if we may judge from the list of vice-presidents, which includes Dr. McCall Anderson of Glasgow, Professor Annandale of Edinburgh, Mr. Golding Bird of Guy's, Dr. Dolan of Halifax, Professor Fraser of Edinburgh, Sir William Mac Cormac, Sir Dyce Duckworth, Dr. Klein, Professor Macleod of Glasgow, Dr. Murrell, Mr. Richard Quain, Dr. J. Burdon Sanderson, and Mr. Simon. Other European countries will be duly represented in the vice-chairs. The Executive Committee invite all regular medical men to the Congress. Communications relating to appointments for papers should be addressed to Dr. John B. Hamilton, Secretary-General of the Congress, Washington, District of Columbia. All communications referring to the business of the Executive Committee should be addressed to Dr. Henry H. Smith, Chairman of the Executive Committee of the Ninth International Medical Congress, Philadelphia, Pennsylvania. There are several errors of name, title, and address in the circular, which should be corrected speedily.

BACTERIUM TERMO TREATMENT.

DR. ROQUER Y CASADESUS of Barcelona having a case of laryngeal and pulmonary phthisis of an advanced character, and wishing to test the value of Cantani's bacterio-therapeutics, asked Dr. Rodriguez Mendez, a well-known microbiologist, to assist him. The condition of the patient was carefully ascertained in consultation, cavities being found in both apices. There was a high temperature, also profuse sweats, diarrhœa, profuse expectoration, great dyspnœa—in fact every sign of acute pulmonary tuberculous degeneration. The patient was in the seventh month of pregnancy. A pure culture of bacterium termo was then prepared by Dr. Botey, and made use of both by means of inhalations twice a day and by intra-laryngeal applications. After a few days the patient's condition was improved, the temperature having fallen from 39° to 38° or 38·4° C. This improvement continued till labour came on, which was of a normal character, but shortly after delivery the woman's condition became alarming, and she died in twenty hours. Dr. Roquer concludes from this case that, whether the remission of temperature was or was not due to the treatment, the bacterium termo was perfectly innocuous, as Professor Cantani states it to be. Dr. Philipovich, who has made several trials of the treatment of phthisis by the inhalation of cultures of bacterium termo, has published a paper describing the results obtained in the reports of the Odessa Medical Society. In one case the inhalations had to be stopped in consequence of the condition of the patient becoming worse, three cases died, and two were discharged. Dr. Philipovich's observations agree in general with those of Dr. Görbersdorf, and are decidedly inconsistent with those of Professor Cantani. The expectoration did not diminish, but it was rather more easily secreted, and so the dyspnœa was less. This, however, was probably due to the action of the water and the better aeration of the lungs, rather than to the microbe. In one case the quantity of sputum was increased, and it became more liquid and very offensive. At the necropsy in this case cavities were found containing tolerably pure cultures of bacterium termo. In none of the cases did the tubercle bacilli in the sputum disappear or even diminish, though the inhalations were continued for seven weeks. Again, no effect was produced on the temperature or sweats, and in all the patients there was noted a greater or less loss of weight. The author concludes that no beneficial effect can be looked for from the use of this method of treatment; indeed it would rather appear, from the post-mortem appearances above mentioned, that inhalations of bacterium termo may be positively hurtful to the human organism.

MUZZLED OR LED.

A DOG in the streets must be either muzzled or led by some competent individual. There is no alternative. He is not under proper control if led by a little girl or boy, from whose feeble grasp or easily frightened hold the dog may readily escape. The object of the police regulations is to stamp out hydrophobia in man by the abolition of rabies in the dog. The police will not have a chance if the regulations are not strictly enforced. Lovers of the canine race must be called "hysterical," "overweeningly sensitive," &c., if they persist in arguing that the muzzle is a torture or the restraint of being led an inhumanity. The total number of dogs not under control taken by the police to the Dogs' Home during the month of July was 2898. Of this number 52 were killed in the streets as rabid, and one developed rabies at the Home. There were no less than 587 summonses taken out against owners of dogs not under control. We are glad to state that the majority of these resulted in convictions. Sixty-five persons are known to have been bitten during the month. One case of death from hydrophobia has been reported as having occurred in July in London.

PHYSIOLOGICAL ACTION OF LUNG TISSUE.

AT the twenty-sixth July meeting of the Paris Academy of Sciences, M. L. Garnier commented on the physiological action of pulmonary tissue in the exhalation of carbonic acid. He observed that it is difficult to explain by simple physical action the passage of carbonic acid from venous blood into the atmosphere of the pulmonary alveoli; that displacement would, however, be easily intelligible if chemical action intervened to set it in motion. M. Garnier's experiments appear to demonstrate the existence in the pulmonary tissue of an acid body, differing from taurine, capable of decomposing the carbonic combinations of venous blood and setting free carbonic acid gas.

SMALL-POX AND VACCINATION.

OUR attention has been called to a communication in the *New Zealand Times* of April 28th in connexion with this subject. It is possible that its author thought it would escape the notice of those who knew, and in any case have the desired effect on those who did not. The primary object was to sow the tares. The pertinacity with which statements are repeated that have been refuted over and over again shows the poverty of the material in the way of so-called facts which the imaginative but mischievous opponents of vaccination have to make use of. The way in which, too, these statements are made to do duty is amusing to those who know how such matters are worked. After a tour at home, followed by the inevitable contradiction, they reappear in the colonies. Now let us examine a few of the statements. It is not true that eighty-one cases of small-pox occurred among the revaccinated European army in Egypt in 1882, of which seven proved fatal. The number of cases recorded for that year was three, and no deaths. It has not been maintained, as asserted, that the army is a perfectly vaccinated class, but rather that if the provisions for vaccination and revaccination could be absolutely carried out it should be so. Mischievous and irresponsible "faddists" have no doubt done all they can to foster ignorant prejudices, but it is a ridiculous exaggeration to say that the operation of revaccination in the English army is regarded with unmitigated dread and disgust. Small-pox is a very common complaint among the native population, not only of Lower Egypt, but also all up the valley of the Nile, and our troops have been almost constantly exposed to its contagion. Revaccination has been attended with much difficulty in Egypt, for various reasons. Since the arrival of the British troops in that country in 1882 up to the end of 1885, with an average annual strength of between 11,000 and 12,000 men, there has been a total of thirteen deaths from that disease. The communication we are reviewing literally bristles with inaccuracies. Let us take two quite indiscriminately. There is no need to select. It is stated that some years ago thirty recruits from Stockport were vaccinated at Shorncliffe, of whom thirteen died of the operation. No information to that effect can be obtained from any official record or from any other source. A quotation is made with inverted commas from a particular page of the forty-fifth annual report of the Registrar-General. We turned to the page in question, but failed to find it there or anywhere else.

COCAINE POISONING.

DR. LUCAS CHAMPONNIÈRE'S *Journal de Médecine et de Chirurgie* for last month devotes an article to cases of poisoning by cocaine, based on researches of M. Chatellier. The employment of the valuable remedy is not contra-indicated by the occasional manifestation of toxic effects, nevertheless it is important to know them. In a case cited by Dr. Speer, a man was in the habit of self-injecting cocaine to combat the effects of drunkenness. The action closely resembled opium poisoning, but the patient recovered under appropriate treatment. A woman, aged twenty-five, to combat hay fever, had a watery solution containing fifteen centigrammes of hydrochlorate of cocaine injected into the nose. In about twenty minutes she became giddy, was oppressed by a sense of weakness, and could not see distinctly. A little later she was in a semi-comatose condition, pulse not countable, slight dyspnœa, pupils dilated. These symptoms disappeared in the course of three hours under the influence of internal stimulants and external friction. Dr. Ziem of Dantzic reports that he injected under the conjunctiva of a man, aged forty, two drops of a 40 per cent. solution. In the course of a few minutes the patient became pale, the forehead bedewed with sweat, and respiration embarrassed. He states that seventeen cases of cocaine poisoning have been reported by oculists. In three the agent was injected hypodermically; in fourteen merely into the conjunctival cul-de-sac. The usual symptoms are pallor and clamminess of the face, vertigo, and great prostration, sometimes lasting for days. Headache and vomiting are infrequent. In one case, after sub-conjunctival injection of fifteen drops of a 2 per cent. solution, the gait became uncertain, articulation indistinct, and memory lost. In another case sub-conjunctival injection of eight drops of a 3·5 per cent. solution produced loss of consciousness and convulsions. M. P. Tissier relates the case of a child, aged four, affected with whooping-cough and coryza, whose nasal fossæ were pencilled with a 1 in 30 solution of hydrochlorate of cocaine. In the afternoon the eyes became distorted and the child convulsed, but these symptoms disappeared without treatment.

MIDDLESEX HOSPITAL RESIDENTIAL COLLEGE.

WE have received a copy of the prospectus of a Company formed for the purpose of building a Residential College in connexion with the Medical School of the Middlesex Hospital. An opportune time appears to have been chosen for initiating such a scheme, as the desirability of affording some safeguards against the dangers which surround medical students, and of imparting something of the collegiate spirit to their life in London, is now attracting considerable attention. We are glad to observe that whilst the Earl of Latham and Major Ross, M.P., chairman of the Weekly Board of the hospital, are amongst the directors of the Company, the medical and surgical staff are also fully represented—an earnest, we take it, of that hearty co-operation of the lay and medical elements which has always been so pleasing a feature of the hospital. The college, which will accommodate thirty students, under the supervision of a resident warden, will overlook the hospital garden and will immediately adjoin the new school buildings which are about to be erected. Such a scheme cannot but commend itself to many parents of students, and should conduce to the best interests of the school. We heartily wish it success.

CHOLERA IN SOUTHERN EUROPE.

CHOLERA would appear to have acquired a firmer hold on Southern Italy than it had a few weeks ago, and fresh places on the Adriatic continue to be attacked, the last place being Biscaglia. The epidemic is still most severe at Barletta, but the daily number of deaths has been reduced from some 60 to 28. In all, 310 fatal attacks have taken place there during the week ending August 17th. It is evident that much of the news as to cholera in Southern Italy is not officially announced, and there is hence every reason for believing that the epidemic there is of greater severity than has as yet been apparent. In North-eastern Italy the disease is still maintained at most of the places last announced as being infected, and a few additional towns within the same area have been newly attacked since our last report. In some towns, notably in Venice, Verona, and Padua, the rate of mortality is still small as compared with the number of attacks. The most continuous records of maintained cholera reach us from Bologna and Ravenna, where 41 and 60 deaths respectively occurred from Aug. 11th to Aug. 17th, and from Verona and Padua. In all, during the week under consideration, the fatal attacks of cholera in Italy have numbered 582, but it is well known that the disease is widely prevalent in many of the smaller townships in the province of Venice and elsewhere, as to which no records are as yet issued. In Naples 9 deaths have occurred amongst immigrants from infected localities. Cholera is still maintained at Trieste, where the deaths in the week ending

the 17th inst. have been 24; it is less prevalent in Fiume, but one or two fresh places in Istria have been attacked. In the Croatian villages, whence news comes most sparingly, the disease is somewhat widespread, and it was recently announced that up to Aug. 11th there had been 228 cases and 118 deaths in various portions of the province.

INFLUENZA IN HAVANA.

DR. JOSÉ R. MONTALVO gives an account in *La Enciclopedia*, a Cuban medical journal, of an epidemic of influenza (*grips*) which occurred last year in the children's wards of the Havana Casa de Maternidad. When the temperature was high, and it sometimes rose to 41·5° and 42°C., he found frequent baths at 35° C. of the greatest value, especially, of course, in the cases where the pyrexia itself appeared to constitute the chief element of danger. These baths were given to children of ages varying from six months to three years, and were supplemented by internal treatment with digitalis, carbonate of ammonia, brandy, port wine, and, where necessary, by ipecacuanha emetics. Where there was diarrhœa the subnitrate of bismuth in quantities of from one to nearly four drachms per diem was given, West's plan of giving minute doses of castor oil and emollient enemata being substituted where there was inflammatory diarrhœa. Dr. Montalvo's paper would have been more valuable if he had given some statistics of the number of cases at different ages and the results. Still, as more than one author whose works he consulted had omitted all mention of the affection, his paper will be valuable in calling attention to it and its treatment on rational principles.

SURGERY AT BRIGHTON.

THE discussion on supra-pubic cystotomy occupied the Surgical Section during the whole of the afternoon of Wednesday, at the Brighton meeting of the British Medical Association last week. Sir Henry Thompson introduced the subject, which has been so recently discussed in London that novelty was hardly to be expected at Brighton. But, on the whole, the feeling of the meeting was evidently in favour of giving this operation a fair trial, not only in cases unfitted for any other form of lithotomy, but also in cases independently of their fitness or suitability for lithotomy or lithotrity. There can be no doubt that grave consequences—incontinence of urine and loss of sexual power—have sometimes followed apparently successful perineal lithotomies. Mr. Cadge was appealed to for information on these points; with a very large experience in lateral lithotomy, and in a provincial town, it was thought he might possess facilities for discovering in what proportion of cases such accidents had occurred. Then again, as a strong point in favour of the supra-pubic method, Mr. Cadge's experience of the frequency of recurrence after lithotrity was quoted. It was urged that the supra-pubic operation was quite easy of performance, and was one which did not need any large operative experience, and was therefore especially adapted for surgeons in the country. Several speakers, on the other hand, referred to the difficulty of the lateral operation in young children; moreover, lateral lithotomy was known to be followed in some few cases by sexual incompetence. It must be admitted that the advocates of the high operation have several important arguments in their favour, while the opponents have not a single strong point to urge against its adoption, even as a routine practice. The great divergence of opinion in regard to many technical details—such, for instance, as to the desirability or otherwise of suturing the bladder,—showed that surgeons need that knowledge which experience alone can bring. Meanwhile, we hope that all cases in which this operation is practised will be carefully recorded; for the merits of the operation cannot be adequately tested except on a clinical basis. On the Thursday, a discussion on the surgery of the liver was arranged for, but for some reason it fell flat, notwithstanding that several interesting papers were contributed. The general opinion arrived at appeared to be that patients were not much benefited by cholecystotomy. On the Friday, Mr. Horsley's paper on the most recent advances in the surgery of the central nervous system attracted a large and enthusiastic audience. Besides showing the possibility of accurately diagnosing the seat of disease and of successfully removing it, Mr. Horsley claimed these results as a direct outcome of experimental investigation on animals. In addition to the foregoing set subjects for discussion, a large variety of other surgical papers was contributed.

MICROSCOPICAL DIAGNOSIS OF A NEPHRO-INTESTINAL FISTULA.

NEPHRO-INTESTINAL FISTULÆ are certainly rare. Dr. R. Wernicke, who publishes his observations in the *Anales del Círculo Médico Argentino*, has only met with three cases in literature, and so believes his to be the fourth. In May last he was asked by Dr. Montes de Oca to examine a sample of urine in a flask. The colour was yellow and there was some turbidity, also a copious yellow sediment containing grey clots of irregular shape. The reaction was alkaline, and the liquid after filtration contained albumen. The turbidity was evidently due to putrefactive microbes and leucocytes. The sediment on microscopical examination showed the presence of leucocytes, red blood-corpuscles, vesical epithelium, caudate or pyriform epithelial cells from the pelvis of the kidney, granular casts, particles of fatty matter (highly refracting and of a yellow tint), quantities of small aggregations of granules (highly refracting, some of the granules being attached to one another, and some surrounded by a yellow, structureless envelope, being in fact coagulated milk); and lastly, a number of striated muscular fibres, stained with biliary pigment, the striæ being more or less obliterated, according to the stage of digestion which had been reached. As there was no question that the whole of the contents of the flask had been passed from the urethra of a man, there could be no doubt that a communication existed between the urinary and digestive passages. The cause of this ulceration was also diagnosed by further microscopical examination of the sediment, which revealed the existence of tubercle bacilli, which were so clearly recognised both by their form and their behaviour with reagents as to leave no doubt in Dr. Wernicke's mind of their precise nature. The case not being under his care, no clinical details are given. It is seldom, however, that the microscope alone enables so much of a diagnosis to be made in a rare and intricate case such as this.

PROSECUTIONS UNDER THE DENTISTS ACT.

WE are glad to see that the British Dental Association are steadily carrying on their prosecutions under the Dentists Act. In the present cases Herr Arnemann was summoned before the Nottingham magistrates last week that he did unlawfully take and use the name or title of dentist, implying that he was registered. For the defence it was urged that he had a diploma from the University of Berlin; but as this foreign qualification is not recognised, the magistrates convicted the defendant, and ordered him to come up for judgment when called upon, and added that in this event he would be severely punished. The other prosecution was of a similar nature. August Friederik, practising at Walthamstow, was summoned at Stratford on the 18th inst. for, not being registered under the Dentists Act, 1878, using the letters D.D.S. or some other title implying that he was

registered under the said Act, or that he was a person specially qualified to practise dentistry. It was urged on the defendant's behalf that he was a fully qualified man, that he held an American diploma in dental surgery, and that he was willing to go through any examination in that art. The magistrates imposed a fine of 20*s.* and costs.

THE BACILLUS OF MALARIA.

IN 1879 Professor Tommasi-Crudeli published, in the *Atti della Reale Accademia dei Lincei* at Rome, a memoir on the distribution of the subsoil water of the Roman Campagna, and on its influence in the production of malaria. In this research, which proved the starting-point of new studies on the etiology of malaria, the author traced the natural history of this morbigenous ferment, discarding many errors and prejudices of old medicine, and maintaining that the causal agent of the disease could only be a living organism. Towards the close of the same year Tommasi-Crudeli and Klebs published in the same *Atti* a memoir embodying the results of inquiries on malaric airs and soils, and of experiments on rabbits, proving that the living organism is a schizomycete, named by them "bacillus malariæ." As the result of researches on the individual affected with malaria, Marchiafava and Celli announced that within the red-blood globules are constantly found plasmatic bodies (*corpi plasmatici*) endowed with lively amœboid movements, in which the hæmoglobine is transformed into melanine (melanæmia); and in a further memoir which they have published this year, they suggest as a more probable hypothesis the opinion that those plasmatic bodies are the living organisms which produce malaria. Thus Marchiafava and Celli confirm in substance Tommasi-Crudeli's opinion, that a living organism is the cause of malaria, but they regard its form as differing from a schizomycete. These observations are embodied in a note with which Todaro prefaces a communication by Tommasi-Crudeli in the April number of the *Lincei*, on "a bacillus found in the malaric atmosphere around Pola (Istria)." This bacillus resembles the most typical forms of the bacillus malariæ which Tommasi-Crudeli and Klebs found in the air and subsoil of the Roman Campagna, which is *par excellence* the home of malaria. Since identity of form does not necessarily imply equality in infective power, Tommasi-Crudeli reserves his definite opinion on the bacilli discovered in the air of Pola, until they shall have been submitted to experimental research, a plan of which he has sketched.

CREMATING DUSTBINS.

IN a recent report to the Marylebone vestry Mr. Wynter Blyth directs attention to what he calls the "cremating dustbin" attached to the Queen Charlotte's Lying-in Hospital. It is simply a small crematorium, built in the shape of a dustbin, of fire-proof bricks, with an iron lid, proper doors and gratings, and a long chimney-shaft carried up to and beyond the roof of the building. This dustbin is charged with combustible material and the various offensive matters which are necessary refuse of every hospital, and they are from time to time consumed. The heat is intense, there is no nuisance, and experience has shown that ordinary house refuse contains so large a quantity of carbon that no additional fuel is required. It is suggested, further, that it would be to the advantage of all hospitals, hotels, large boarding-houses, schools, and other institutions if each were provided with one of these cremating dustbins. In an ordinary household all vegetable refuse and offensive matter should be destroyed in the kitchen range; and to avoid nuisance it is an excellent plan to throw all vegetable refuse into the cinder-tray beneath the fire, where it gets dried up and partly charred, before finally putting it into the fireplace itself.

SUBLIMATE INJECTIONS IN GONORRHŒAL CYSTITIS.

THE history of an obstinate case of gleet and cystitis is given in *El Dictamen* by Señor García Andradas, which after being treated unsuccessfully by means of injections of nitrate of silver, yielded very quickly to injections of corrosive sublimate. The patient, who was a river fisherman, contracted gonorrhœa, which was treated for a month with balsams and astringent injections. The discharge then became serous, and exquisitely painful vesical tenesmus supervened, the calls to urinate being so frequent as to give the man no rest. An attempt to pass an instrument occasioned the greatest agony when it came in contact with the prostatic portion of the urethra. The diagnosis made was that of acute prostato-cystitis consequent on gonorrhœa, and so the local application of a sublimate solution appeared to be the most rational treatment, as it had in the author's hands proved very beneficial in cases of subacute cystitis due to the same cause; but it was thought well to try first Guyon's treatment. With great difficulty, owing to the extreme sensitiveness of the urethra, an elastic catheter was passed to the prostatic portion, and ten grammes of a 1 per cent. solution of nitrate of silver injected. A few minutes afterwards urine was passed with great pain, so a warm bath and an opiate were ordered, which gave only temporary relief, the opium having to be repeated at night. The next day the patient's condition was the same as it had been before the injection. Three or four days afterwards a similar injection was given, with no better result. Four days later, as there was no improvement, the use of sublimate injections was commenced. The catheter was passed as far as the prostate, and forty-five grammes of a 2 per mille solution of sublimate in warm water were injected. This the patient was compelled to retain for three minutes; the subsequent micturition was very painful, but at night he was able to rest and retained his urine for three hours. The next day the urine was less turbid, and it was voided less frequently. His condition continued to improve for three days, when a second sublimate injection was given of double the quantity of solution. This occasioned some pain, but it quickly passed off and the patient was able to rest. In four days' time he requested to be discharged, as his urine was clear and he had no pain on micturition. Thus, the author remarks, two injections sufficed to cure completely an affection usually most obnoxious to treatment of an ordinary kind. The superiority of sublimate injections has shown itself in several cases of a somewhat analogous character in which he has employed it. These he proposes to publish and discuss on some future occasion.

MILK AND THROAT DISEASE IN CANTERBURY.

THE medical officer of health of Canterbury has reported a sudden outbreak of throat disease, which in eight days attacked no less than 231 persons, without fatal effects in any instance. So far as can be judged, the epidemic was due to milk, for of 160 houses served from the dairy which is in suspicion no less than 94 were affected, and, as far as can be gathered, out of 36 houses supplied partly from the same dairy and partly by other milkmen 21 were affected. In the other instances of houses affected the persons in question seem almost exclusively to have been those who were either attacked late during the outbreak, and under circumstances which admitted of their having derived the infection from antecedent cases, or else persons who may easily have partaken of the suspected milk elsewhere than in their own homes. So far, the reports on the case are, we trust, incomplete, for by far the most interesting feature of the case is the implied sickness of animals in connexion with the outbreak, and the history as to this is as yet very

imperfect. Indeed, we only learn of a lamb in the suspected dairy premises having suffered "from sore-throat," and of cows having had "diarrhœa." The connexion now established between disease in the human subject and affections of a specific character in lower animals, and especially in cows, is of far too great importance to admit of such a case being passed over by such vague accounts in so far as these animals are concerned. It is to be hoped that skilled veterinary and pathological aid was secured, either through the Local Government Board or otherwise, and that a more complete report will be issued.

THE IRISH DIRECT REPRESENTATION.

A CORRESPONDENT says that "Dr. Jacob has neither resigned nor proposed to resign his corporation post." We certainly read Dr. Jacob's address differently. It is a point, however, on which there should be no doubt, and on which it is the duty of the Irish profession to inform themselves by direct appeal to Dr. Jacob. If the appeal is not satisfactory, there are other candidates who would well represent Irish practitioners, amongst them Mr. Thomas Laffan of Cashel, who is not only a general practitioner, but who has written on the subject of Medical Reform, and is the author of a Carmichael prize essay. There has never been in the Medical Council a representative of the provincial practitioners of Ireland, who play such a special and important part in that country. Mr. Laffan would meet this defect.

ASSOCIATION OF GERMAN NATURALISTS AND PHYSICIANS.

THE fifty-ninth annual meeting of the Association of German Naturalists and Physicians promises to be a very brilliant affair. It is to take place in Berlin from the 18th to the 24th of September, and the programme of its proceedings, issued under the authority of Professors Virchow and Hofmann, occupies six pages of our contemporary, the *Berliner Klinische Wochenschrift* (Aug. 16th). There are no fewer than thirty sections, and the number of contributions promised is very large.

THE DELICACY OF THE SENSE OF SMELL.

THE delicacy of the sense of smell in the dog, the shark, and insects is well recognised. Man is not greatly gifted with the olfactory sense compared with these; but if we may place reliance on the experiments of Professor Valentine, the delicacy is fairly great even in human beings. If we can sniff a tenth of a pint of air containing bromine in the proportion of a thirty thousandth of a milligramme, or the same quantity of air impregnated with the two millionth of a milligramme of sulphuretted hydrogen, we cannot mathematically have ground of complaint against our olfactory sense. Still less can this be the case if we can, as seems likely, detect the 230-millionth of a milligramme of sulphuretted alcohol or mercaptan.

THE SALE OF BAD EGGS.

MR. BARSTOW recently made an order at Clerkenwell for the destruction of 12,000 eggs seized in the parish of Clerkenwell by the officers of the Sanitary Authority. The vestry's solicitors have now informed them that no proceedings can be taken against the owner of the eggs, as no existing Act could be made to apply to this article of food. We are glad to learn that the vestry propose to seek an amendment of the law, for there is no reason to think that eggs when in a state of decomposition are less injurious to health than some other articles of food which cannot be exposed for sale without penalty attaching to the vendor.

CHARTERHOUSE SCHOOL.

WE observe with much satisfaction that steps are now to be taken to remedy the defective drainage of the houses occupied by some of the masters of the Charterhouse School. It seems to be acknowledged that these houses have not been effectually drained, and that although the masters have endeavoured to the best of their ability to remove this defect, they have failed to do so. It is of little importance to us whether this has been due to the refusal of the rural sanitary authority to provide an outfall for the drainage or to the successful opposition of the governors of Charterhouse to the Bill brought into Parliament by the Godalming authorities for a large and comprehensive system of drainage, including the school and masters' houses. The result has been unfortunate as regards the health of the boys. We are now assured that the difficulties have been overcome, and "that before the boys return from their summer holidays all danger from insufficient sewerage will be removed, and the house masters relieved from what has been a constant source of anxiety and expense to them." We trust this may be so, and that the governors may at the same time take the opportunity to modify the regulations affecting the position of the medical officer as regards sanitary recommendations, and require of him periodical reports to be made to themselves of the health of the school and of the conditions by which it is likely to be affected.

FOREIGN UNIVERSITY INTELLIGENCE.

DR. STEFFAL has been appointed Professor of Anatomy and Dr. Joseph Reinsberg Professor of Forensic Medicine in the Bohemian University of Prague.

Dr. von Dittel, Extraordinary Professor of Surgery in Vienna, is about to retire.

Professor Karl Schönborn, Director of the Surgical Clinic in Königsberg, has been unanimously elected by the Medical Faculty of Würzburg to the vacant Chair of Surgery in that university.

Dr. A. Wolff has been appointed Professor of Dermatology and Syphilis and Director of the Dermatological Clinic in Strasburg, in succession to Professor Wieger.

Professor Winckelmann has been appointed Professor of Physics in Jena, in place of Professor Sohnke, who has gone to Munich.

It is stated that the two old Swedish universities of Upsala and Lund are shortly to be supplemented by two new ones, situated in populous places—viz., Stockholm and Gothenburg.

ALLEGED INSUSCEPTIBILITY TO VACCINATION IN SPAIN.

ACCORDING to a local medical journal, the practitioners of Castellon in Valencia have nearly all observed during the present year a singular insusceptibility to vaccination from both calf lymph and human lymph obtained from a distance. This insusceptibility seems to be confined to no particular class of persons, and it is said to be observed in people who have been operated on by very different methods.

ANIMAL AUTOMATISM.

AUTOMATIC MAN (*l'Homme automate*) is the subject of an elaborate psychological dissertation by M. A. Fouillée in the *Revue des Deux Mondes* of August 1st. He opens with a reference to Huxley's criticism of Descartes' doctrine on the automatism of beasts. It is claimed for Descartes that under the name of *undulatio reflexa* he described the automatism of reflex actions, but he erred in placing man in a separate category. Experimental physiology has conclusively demonstrated that the reflex and automatic

functions of the spinal cord are common to all animals, man included; and it is reasonable to hope that with a deeper study of physiology and psychology as one science, the profoundly interesting subject of animal automatism may be better understood. Meanwhile thanks are due to M. Fouillée for a memoir rich in erudition and suggestiveness.

OUTBREAK OF ANTHRAX IN LEICESTERSHIRE.

AT a village (Arnesby) in the above county, some few miles from Leicester, there has been an outbreak on one farm of splenic apoplexy, which has proved fatal to some eight or ten beasts. On the 31st ult. a carcase of one of these was sent to the Leicester market, and the man in charge of it scratched his hand with the bone thereof, and died in a week from a severe attack of malignant pustule. At least two other men have suffered severely, also from the disease, who had to do with the killing of the animals. The veterinary inspector stated at the inquest on the fatal case that he never condemned beasts suffering from splenic apoplexy, as he considered them fit for food if thoroughly cooked. Some of the carcases were, it appears, sent to the London meat market, but were not, it is stated, sold there as human food.

CONGENITAL ABSENCE OF LEFT KIDNEY.

AT the Anatomical Society of Paris on April 9th, M. Albert Cayla presented specimens from the body of a child one year old, who had died in hospital of broncho-pneumonia. The child had a large congenital right inguinal hernia, but had no left kidney. The corresponding renal artery and vein were also absent, and there were only two openings in the bladder—the urethra and right ureter. Both supra-renal capsules were present. The right kidney, enlarged and of regular shape, was in the normal position; it weighed sixty grammes, and measured nine centimetres in length and four and a half in width. The pelvis and ureter were dilated, their walls being thinned.

ANTISEPTIC PAPER DRESSING.

DR. DON ANTONIO MORALES PEREZ describes in the *Revista Médica* of Seville a simplified antiseptic or Listerian dressing, consisting of bibulous paper heated to 110° C. and soaked in a solution of carbolic acid, boracic acid, or corrosive sublimate. This is placed over the wound in about eight layers, and covered with sheet gutta-percha or mackintosh, the whole being secured by an indiarubber bandage. The writer claims for this dressing the advantages of cheapness and portability, and thinks it will be found very serviceable in the field and in small hospitals.

DIPHTHERIA AT WEST COWES.

DIPHTHERIA, which has occasionally been prevailing in West Cowes, has again broken out there, as many as five patients being stated to have been attacked in one house. The sanitary arrangements of the town are said to be, in many important respects, seriously defective. It is not very long since a medical inspector of the Local Government Board visited the place, and a strong representation has now again been presented to that Board for an exhaustive inquiry into the causes of the diphtheria. It is fully expected that the application will at once be acceded to.

CHYLOUS ASCITES.

M. L. STRAUS, in the *Archives de Physiologie* (Paris, May 15th), publishes an elaborate memoir on chylous ascites, and enunciates the following conclusions. A rare kind of ascites exists as the result of effusion of chyle into the peritoneal cavity, and therefore rightly named chylous ascites. Such effusion is always due to a lesion of, or obstacle in, the chyliferous vessels, the ganglia, or the thoracic duct. The irruption of chyle into the peritoneum is either due to transudation or to actual solution of continuity of the chyle vessels, or of the thoracic duct. Clinically, the chylous nature of the extravasation may be affirmed with certainty by the following characters: the milky and homogeneous appearance of the liquid, the extreme thinness and regularity of the fatty emulsion which it contains, its poverty in white and red globules, and the rapidity of its reproduction with the same characters.

MR. GEORGE LAWSON, F.R.C.S., has been appointed Surgeon-Oculist in Ordinary to Her Majesty, in the place of Mr. W. White Cooper, deceased.

ABSTRACT OF

THE BRADSHAWE LECTURE ON DIABETIC COMA.

Delivered at the Royal College of Physicians on Aug. 18th, 1886,

BY JULIUS DRESCHFELD, M.D., F.R.C.P.

Many Causes of Coma in Diabetes.—Sudden death in a comatose state frequently occurs in the course of diabetes; but it is necessary to distinguish between the various forms, for some are common to diabetes and other diseases, whilst the more strictly speaking diabetic coma presents features of extraordinary interest. *Cerebral hæmorrhage* may cause death in coma when diabetes is the disease from which the patient is suffering. *Acute croupous pneumonia* may cause death in diabetes without the usual symptoms of pulmonary inflammation, much in the same way as sometimes occurs in Bright's disease; the prominent phenomena being dyspnœa and coma. Dr. Dreschfeld considered, with Stokvis, that albuminuria is very frequent in diabetes, though the amount of urine passed may interfere with its detection. Death in coma may be the result of *interstitial nephritis* complicating diabetes. Mention was made of two cases of the kind in which headache, vomiting, and convulsions with marked dyspnœa rapidly developed and ended fatally; there was albuminuria, but no odour of acetone in the breath, and no evidence of aceto-acetic acid in the urine. Again, *intercurrent* affections may have a resemblance to true diabetic coma. Death from slight operations in diabetic subjects appears to result from paralysis of the heart-muscle or nervous centres. A case of urethral stricture was referred to, in which death occurred ten hours after the necessary operation from collapse; aceto-acetic acid was not detected in the urine; the bladder was hypertrophied and dilated; the heart free from fatty degeneration. This might be regarded as a case of catheter fever occurring in a diabetic.

Three kinds of Diabetic Coma.—In 1881, Dr. Dreschfeld read a paper before the Midland Medical Society in which he differentiated three chief forms of diabetic coma. Twelve months after Frerichs expounded the same views in the *Deutsch. Zeitsch. für Klin. Med.*, and adopted an identical classification, whilst distinguishing more clearly between the first and other forms.

Dr. Dreschfeld next proceeded to give an account of the three forms. The first, called *diabetic collapse*, which had been recognised by Prout, consisted in the development of drowsiness with extreme coldness of the surface, quick pulse, and shallow breathing; death occurs with failing temperature in from ten to twenty hours. The urine, which may be passed voluntarily during the early stage, contains from 5 to 8 per cent. of sugar, but no aceto-acetic acid, and a little albumen. Active delirium and convulsions are absent; the pupils, though sluggish, react to light. The necropsy reveals no marked naked-eye changes; the body is usually stout and well-formed; the heart has been found to be fattily degenerated, or its fibres in a state of granular degeneration; whilst the liver has presented greyish patches of fatty metamorphosis. This form is most frequent in people above forty, who have had diabetes for some time—cases

that Hoffmann has described as the *constitutional* diabetes of stout people. Some extra physical exertion or sudden shock, or error in diet or drinking, has not unfrequently been the exciting cause. The proximate cause is most likely fatty degeneration of the heart, as Frerichs believed; this organ has frequently weighed but four or five ounces. This hypothesis of the cause of death is supported by what we know of similar deaths in other diseases, as in fatty liver &c., Addison's disease, and pernicious anæmia.

In the second or *alcoholic* form of diabetic coma the patient has all the appearance of acute alcoholic intoxication. Typical cases of this kind were detailed; one of a middle-aged man who commenced by singing and swearing, the pulse being accelerated and conjunctivæ injected, deep coma ensuing on great excitement. Sugar and alcohol were found in the bladder; yet circumstances rendered it impossible that the man could have obtained alcoholic liquor.

Of the third form of diabetic coma in which dyspnœa (Kussmaul's symptom) with coma were the main symptoms, Dr. Dreschfeld had had sixteen cases, ten of which were completed by a necropsy. This form was usually ushered in with lassitude, slight dyspnœa, or severe gastric pain; headache, restlessness and excitement, drowsiness, dyspnœa, and coma are also observed.

A detailed account of the symptoms, as they could be gathered from a study of eighty cases, was next given. The severity of the abdominal pain; the frequency of the dyspnœa, first inspiratory and later expiratory as well, the chest apparently expanding properly in all dimensions; the dry red tongue—diminution of the glycosuria, even to disappearance; the frequent excessive acidity of the urine, in which Minkowski had detected oxybutyric as well as aceto-acetic acid; the constant occurrence of albuminuria and sometimes of hyaline and granular casts, and occasionally of fat; the initial rise of body temperature, which is followed by a great fall even to 90°, as Sir W. Foster had observed; and the variable proportion of fat in the blood,—were some of the chief features dwelt upon. Ninety per cent. of the cases proved fatal, and the great bulk within a few days. Seventy per cent. of the eighty cases examined occurred between the ages of twenty and forty. This form of coma had been known to occur in children even as young as five. From six to twelve months usually elapsed from the onset of the first symptoms of diabetes before coma occurred. Diabetic coma is known to occur in families. A girl of sixteen died of coma, and lost her brother, aged nineteen, and uncle, aged twenty-nine, from the same disease (Greenfield). Charcot mentioned a series of four, in which the sister of one case, together with the father and uncle, probably died of diabetic coma. The exciting causes were very like those of the alcoholic form.

Pathological Anatomy.—The nervous system shows no constant changes. Fat embolism as a cause of death was found but once. Necrotic changes in the epithelium of the convoluted tubules of the kidneys was discovered in six cases. The presence of excess of glycogen in the tissues of the brain was an isolated observation. The heart was frequently small; the pancreas small and atrophied. Distended hepatic capillaries, with atrophy and fatty degeneration of the liver tissue, were specially referred to.

Pathology.—The symptoms so exactly resembled an acute intoxication of the blood that Dr. Dreschfeld considered a blood-poisoning as the only probable explanation of the pathology of diabetic coma. He discussed the questions of lipæmia and acetonæmia, and also of aceto-acetic acid and oxybutyric acid poisoning. The last three bodies are nearly related, as oxidation of oxybutyric gave aceto-acetic acid, and oxidation of the latter acetone and carbonic acid.

Experiments.—Many experiments were made on man and rabbits by Dr. Dreschfeld, with a view to ascertaining whether acetone, aceto-acetic acid, and oxybutyric acid were capable of causing the symptoms of diabetic coma. The general conclusion arrived at was that man and animals can take large doses of these bodies without suffering in any marked way, provided the excretory organs were in good working order. Large doses of acetone in man caused drowsiness and headache occasionally. Dr. Dreschfeld next pointed out that acetone may be detected in the breath, and aceto-acetic acid in the urine in other diseases than diabetes. (See THE LANCET, vol. ii., 1885, on Diaceturia.) In a case of syphilitic cirrhosis of the liver symptoms of vomiting, headache, and great depression, rapidly passing into coma, and simulating the diabetic form, proved fatal in thirty-six hours.

Dr. Dreschfeld's view of the pathology of diabetic coma may be thus summed up. As the result of some frequently definite exciting cause, various bodies—acetone, aceto-acetic acid, oxybutyric acid, and possibly others—arise in the blood, which would be rapidly eliminated therefrom if all the emunctories were acting efficiently. But in diabetes the kidneys and liver are seriously deranged, as witness the necrotic changes in the renal epithelium and the atrophy and fatty degeneration of the liver with distended capillaries. As a consequence these bodies accumulate and poison the nervous centres with the production of the serious symptoms. The impairment of the normal functions of the liver is regarded as of equal if not greater importance than the disturbance of the kidneys. The fact that albuminuria is rarely absent in diabetic coma is held as corroborative of these views. Some authorities have held that the symptoms are to be ascribed to the diminution of the alkalinity of the blood, but this theory of acidification of the vital fluids is disputed by many. Finally, Dr. Dreschfeld thinks there is a certain analogy between uræmic poisoning and diabetic coma. Urea, like acetone, is not a direct poison itself; but if elimination is prevented, it and other products of albuminous disintegration may accumulate and so give rise to morbid phenomena. To the question, Where are these bodies—acetone, &c.—formed? no certain answer can be given; they have been regarded as resulting from the oxidation of sugar, but their deviation from albuminous bodies is the more likely supposition (see Jaksch on Acetonuria and Diaceturia). Whether a ptomaine-like body is developed in the blood, and causes the symptoms, must be regarded thus far as mere speculation.

Treatment should consist in the avoidance of those exciting causes—active exertion, mental or physical, and sudden alteration in diet—already mentioned. The prevention of constipation is also an important matter. The employment of antiseptics and bicarbonate of soda in large doses (on the acidification theory) has not yielded satisfactory results. Altogether the prognosis is very gloomy, and the diabetic must be regarded, with Prout, as "walking on the brink of a precipice."

HEALTH OF THE ARMY.

No. I.

THE report by the Director-General of the Army Medical Department on the health of the Army during the year 1884 shows the average strength of the troops serving at home and abroad, exclusive of colonial corps, to have been 167,686. The admissions into hospital were in the ratio of 1092, the deaths 8·42, the discharges by invaliding 17·98, and the constantly non-effective from sickness 56·38 per 1000 of the strength—all being somewhat higher than in 1883, except the deaths, which show a reduction of 1·15 per 1000. There was a very marked reduction in the admissions in the West Indies and China, and a moderate one in Ceylon; in all the other commands there was an increase compared with the preceding year. The death-rate in Egypt was much lower than in 1883, and it was also lower in Ceylon, the West Indies, and Gibraltar, but was higher in all the other foreign stations. The average strength of the troops in the United Kingdom was 83,135; of whom 870 were admitted into hospital, 8·42 died, 17·98 were discharged as invalids, and 56·38 were constantly non-effective from sickness per 1000 of strength. The admissions and mean daily sick were above, but the mortality and invaliding under, the average of the preceding ten years. Scarlet fever and measles prevailed to some extent among the troops at Aldershot, London, Woolwich, Portsmouth, Winchester, Devizes, and Dublin, but in a mild form, only one death having occurred from the former. Enteric fever was slightly less prevalent and fatal than in 1883, but closely corresponded with the average of the last five years; the greatest number of cases occurred at Dublin, Limerick, and Aldershot. Nine cases with three deaths occurred at Limerick, the origin of which is stated to have been traced to "defective sanitary condition of waterclosets." Erysipelas was more prevalent than in the preceding year; it was the cause of 244 admissions and two deaths, and seems to have been pretty generally spread over the military stations. Only four cases of diphtheria with one death were reported

during the year—two at Norwich, one at Chatham, and a fatal one at Aldershot, where the disease is said to have been prevalent among the civil population. The usual detailed information is given respecting the prevalence of syphilis, which shows a very marked increase in the admissions, especially of the primary form, compared with the preceding five years, when the Contagious Diseases Acts were in operation. The increase has been chiefly, though not exclusively, at the stations which were under the Acts. A fatal case of hydrophobia occurred at Woolwich; the man died about twenty hours after admission. No particulars are given in the report. There were 210 admissions by alcoholic poisoning and delirium tremens, being in the ratio of 2·53 per 1000 of strength, and seven of them terminated fatally. Fifteen deaths by suicide were returned, being ·17 per 1000 of strength; nine were by firearms, two by cut-throat, two by poison, one fracture of skull, and one not stated.

The highest proportion of admissions into hospital, 1011, was from the Foot Guards, and the lowest, 642, from the Royal Engineers; but the latter furnished the highest death-rate, 8·69, while the lowest was in the Household Cavalry, 4·10 per 1000. The Royal Engineers had the lowest and the Foot Guards the highest proportion constantly sick, the respective ratios being 29·34 and 48·35 per 1000. The sanitary reports by the principal medical officers of the districts affords evidence that an efficient supervision is exercised with regard to the barracks and hospitals.

At Gibraltar the average strength for the year was 4712; the admissions were in the ratio of 967, the deaths of 4·03, the mean sick of 55·65, and the invaliding to England of 33·10 per 1000. The deaths were 2·90 below the average of the preceding ten years, but all the other ratios were above it; there was, however, a decrease of 6 per 1000 in the mean sick compared with the ratio in 1883. There was an increase in the admissions for continued fever, attributed to "the frequent changes that have taken place in the garrison, and to the large percentage of young soldiers in the regiments." But it is worthy of note that, notwithstanding this, there were only three admissions and one death from enteric fever. There is little to observe regarding the prevalence of disease at Gibraltar during the year, except that "in August, when cholera was epidemic in the south of Europe, diarrhœa, accompanied by colic and vomiting, appeared in an epidemic form at this station. The attacks were, for the most part, of short duration, averaging from twenty-four to thirty-six hours, and were very amenable to treatment, but they were very general throughout the garrison, few, either civil or military, escaping. It commenced about the beginning of August and lasted till the beginning of September, the weather during most of the time being intensely hot. The severe cases were characterised by violent diarrhœa, accompanied by cramps in the bowels and legs, and incessant vomiting." It could not be traced to any local insanitary condition, and none of the cases died.

The average force at Malta was 4637; it furnished 840 admissions, 9·27 deaths, 30·41 invalids to England, and 55·84 constantly sick per 1000 of strength. These ratios, though higher than those of 1883, correspond very closely with the average of the last ten years, except the mean daily sick, which shows an increase of 8 per 1000. One-half of the deaths resulted from enteric fever. The admissions by this disease amounted to 20·3, and the deaths to 4·74 per 1000 of strength. The greatest number of cases occurred in the Cottonua district in May, June, and July. In the Valetta district a large number of admissions took place in November. The medical officer in charge at Cottonua says: "It is remarkable that only two cases occurred among the women and children, occupying the same quarters and with the same water-supply [as the men]. I am of opinion that this disease is seldom contracted in barracks, but in the very insanitary houses of the natives which the soldiers frequent." The Principal Medical Officer concurring in this opinion, 44 grog shops in the Cottonuan district were put out of bounds for the troops by the authorities, as the water in the tanks was reported to be polluted and unfit for drinking. No information, however, is given as to the effect of this action. A number of cases of pneumonia "occurred among the young soldiers of the 2nd Royal Irish Regiment, which occurred in the month of March from England; 15 cases were admitted into hospital immediately after the regiment disembarked, and 14 were transferred from hospital on board ship." It is not stated whether there was any special inquiry into the condition of the troops on board the ship from which these cases were landed.

The Royal Malta Fencible Artillery, 347 strong, appear to have enjoyed excellent health during the year, the admissions having only been 660 per 1000, without a death; the mean daily sick was 22·19, and the proportion discharged as invalids 11·52 per 1000. There were no cases of enteric fever or of tubercular disease.

In Cyprus the average strength of the troops was 495; the admissions into hospital were 753, the deaths 16·16, invalids sent to England 34·34, and the mean sick 31·77 per 1000. These ratios are all considerably higher than in the preceding year, but this increase is entirely attributable to the 1st Royal West Kent Regiment having been replaced in June by the 3rd King's Royal Rifles from Egypt. The admissions and death-rate on the former, during the first half of the year, were in the *annual* ratio of 7·52 and 7·01 per 1000; while in the latter, from the time of its arrival, they were 1103 and 23·80 per 1000, a result of its previous service in Egypt. There were three cases and one death of enteric fever, all in the Rifles and contracted in Ramleh. During the season three drafts of 50 men each were sent to Troodos from Egypt, as convalescents, and derived considerable benefit from the change, especially those convalescent from fever and general debility from various causes. From the month of June till the middle of October, all the troops, except a few necessarily left at Limassol, were quartered on Mount Troodos.

The strength of the troops at Halifax, in the Dominion of Canada, was 1265. The admissions into hospital amounted to 779, the deaths to 6·32, the mean sick to 50·81, and the invalids sent home to 20·55 per 1000 of strength. With the exception of the invaliding, these ratios are all a little over the average; but as regards the deaths three only in a total of eight were the result of disease, the other five having been caused by accidents and violence and by suicidal poisoning. Two cases of enteric fever were admitted, but the disease is stated in both to have been contracted at Bermuda. The fatal cases of disease were one of phthisis, one of pneumonia, and one of nephritis, giving a ratio of only 2·37 per 1000 of strength.

The strength of the troops in Bermuda was 1551; the ratio of admissions among them was 618, of deaths 10·96, and of constantly sick 32·40 per 1000. There were no invalids sent to England during the year. The admissions and mean sick were slightly under, and the deaths 3·46 above, the average. The excess in the mortality was chiefly due to an outbreak of enteric fever at Prospect. The admissions by this disease were 62 and the deaths 10, being respectively 40 and 6·45 per 1000 of strength. It prevailed from the middle of August to the end of the year. The Principal Medical Officer says: "It appears to have been connected with an excessive rainfall, following on an unusually dry summer, and the coincident impervious condition and resulting accumulations in and around certain drains and catchpits used to carry off the surface, washhouse, and urinal drainage. On these conditions being rectified, and the old disused cesspits being emptied, deodorised, and filled in, the disease gradually declined." It is difficult to understand why these important sanitary measures had been so long delayed. It is stated even now that "the system of drainage as regards the disposal of urine, water of washing and ablution rooms, is very faulty. A special sanitary committee has reported on the insanitary conditions, and has forwarded recommendations for a new and thorough system of drainage." Of the six remaining deaths, three were by drowning and one from poisoning—the case of a man who "partook of a large quantity of preserved lobster for supper; during the night he was attacked with violent pains and vomiting. He was taken to hospital, but died a few hours after admission."

The average strength of the white troops in the West Indies was 970, and their health appears to have been satisfactory. The admissions were 749, the deaths 11·33, the mean sick 39·84, and the invaliding to England 27·83 per 1000; all but the last being under the average of the preceding ten years. Only five cases of enteric fever were reported, all severe but none fatal; they occurred at Barbadoes, and could not be traced to any insanitary condition. Of the deaths, two were from phthisis, two from heart disease, three from pneumonia and bronchitis, one from hepatitis, one from Bright's disease, one from a fall, and one from a suicidal gunshot wound. The strength of the Black Troops was 1150. They furnished 926 admissions, 11·30 deaths, 26·96 invalids, and 60·49 constantly sick per 1000; the first

two being considerably under and the last two slightly above the average. Four deaths occurrrd from remittent fever, two at Jamaica and two at Honduras; the deaths from phthisis were much below the average, but those from heart disease considerably above it.

On the West Coast of Africa the strength of Black troops was 530; the admission rate was 1276, the death-rate 16·69, and the mean sick 67·51 per 1000; none were discharged as invalids. These ratios are much under the average, except the mean sick, which shows an increase of 4 per 1000. One case of enteric and one of yellow fever occurred at Sierra Leone, both fatal. There is a satisfactory reduction in the prevalence and mortality of tubercular diseases among these troops.

The average strength of troops at the Cape and St. Helena was 3157, the detachment at St. Helena being only 173. The admissions into hospital from the whole force were in the ratio of 679, the deaths of 7·91, the invaliding to England of 23·76, and the mean sick of 44·10 per 1000, the two former being considerably higher and the others considerably lower than in 1883. The increase in the admissions was probably due to the arrival in the command of several regiments sent as reinforcements for the Bechuanaland expedition. There were fifty-three admissions and eight deaths of enteric fever, one of each at St. Helena. At the Cape there were two outbreaks of the disease, one at Pinetown and the other at Rorke's Drift. At the latter station the disease began in October, when three cases occurred, followed by thirty in November, and one in December, some of them proving fatal. It was chiefly confined to the young soldiers of the 2nd South Lancashire Regiment, which had just moved from England. Eight cases occurred at Pinetown in May, and three in November, the latter believed to have been contracted at Rorke's Drift. There were also five cases at Maritzburg, three of them contracted at Rorke's Drift, and one case at Etchowe contracted on the march from Pinetown. Polluted water was believed to have been the cause in all these cases. Exclusive of those from enteric fever, the deaths were only in the ratio of 5·42 per 1000. It is stated that the vicinity of Cape Town "continues to call for remonstrance on the part of the military authorities on account of faulty drains and neglected sluits."

In the Island of Mauritius the strength of the troops was 363; the admissions were 2295, the deaths 22·3, the invalids to England 46·83, and the mean sick 95·73 per 1000 of the force. These are all considerably above the average of the last ten years, and also, except the mean sick, higher than in 1883. The great amount of sickness and mortality was due, as before, to the prevalence of paroxysmal fever, by which the admissions were 1358, and the deaths 11·02 per 1000 of strength. The Principal Medical Officer says: "the evil influences which have of late years so seriously affected the health of the troops stationed in the line barracks at Port Louis are unabated, and the only prospect of substantial amelioration is the transfer of the infantry to Curepipe; this measure is in course of execution by the gradual increase of branch accommodation at that station." The value of such a change is shown by the fact that fifty-five men who were sent from Natal, to replace a similar number, were sent at once to Curepipe, and "there has been seemingly an almost complete immunity from ague and the ordinary remittent fever from among them." Surely, when one-tenth of the force is constantly non-effective from sickness, every exertion should be made to carry out without delay so very desirable a change.

The average strength of the European troops in Ceylon was 1988; the ratio of admissions into hospital was 980, of deaths 7·04, of invalids sent to England 32·49, and of mean sick 67·49 per 1000. The deaths and invaliding were considerably under, and the admissions and mean sick above, the average of the preceding ten years. Compared with 1883 there was a very marked decrease in the cases of fevers, diseases of the digestive system, and injuries, but a great increase in syphilis, particularly the primary form, and gonorrhœa. There were only two cases of enteric fever, but both fatal at Colombo. Diseases of the digestive system were the most frequent cause of death, two men having died from dysentery, two from peritonitis, and one from hepatitis. The native troops consisted of only eighty-five gun lascars, of whom thirty-two were admitted into hospital and two died, the fatal diseases being debility and pharyngitis.

In China and the Straits Settlements the European troops were 1988; the admissions were 980, the deaths 7·04, the invalids sent home 38·33, and the men sick 46·89 per 1000, all considerably under the average of the preceding ten years, and the admissions and mean sick much under the proportion in 1883. As in the preceding year, the sickness and inefficiency were lower at Hong-Kong than in the Straits Settlements, but the deaths and invaliding were higher. There was a very marked reduction in fevers, both of the continued and paroxysmal types, and also in debility, so often the result of fever. No cases of enteric fever were reported. The decrease in sickness is attributed to improved drainage and sanitary conditions.

The Asiatic Troops in the command, 180 strong, were not so healthy as the Europeans, the admissions having been 1050, the deaths 22·22, and the invalided 33·33 per 1000.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE Provincial meeting of the above Association, which now includes more than 400 members, was held on Wednesday, August 11, in the Royal Pavilion, Brighton. The President (Dr. Macnaughton Jones, F.R.C.S.I.) stated that the late Government had, in consequence of representations made by a deputation from their Association, inserted in the Medical Acts Amendment Bill (now on the statute book) a clause by which the members of the King and Queen's College of Physicians in Ireland, and those holding the degree of Master in Obstetrics of the two Irish Universities, were entitled to have their diplomas and degrees entered on the Medical Register. A grievance of those seeking Poor-law appointments had thus been removed through the instrumentality of their Association.

The Honorary Secretary (Dr. STEWART) brought under the notice of the meeting a grievance from which Irishmen holding qualifications as high as could be obtained anywhere were suffering still, owing to the "boycotting" of the Fellows of the King and Queen's College of Physicians and Royal College of Surgeons in Ireland by the Boards of Governors of several large public hospitals in England. The latest instance of this occurred in his (Dr. Stewart's) own neighbourhood, the Bristol General Hospital governors having as recently as June last confirmed a rule which disqualifies a Fellow of either of the Irish Colleges from holding the post of physician or surgeon on the staff.

Sir WILLIAM STOKES said he would be sorry to think that the governors of the institution referred to made that rule with a desire to insult the College of which he had the honour of being the President. Their action had probably arisen from their being unacquainted with the requirements necessary in order to obtain the F.R.C.S.I., the examination for which was a most searching one.

Sir THOMAS CRAWFORD, K.C.B., thought the Association ought to take the matter in hand immediately.

The PRESIDENT said the only logical ground on which such a distinction as that made by the Bristol Hospital could be justified was a superiority of qualification, and, as a Fellow of the Royal College of Surgeons in Ireland, he denied altogether that holding the English Fellowship proved the possession of higher professional attainments. The tests of the Irish College of Surgeons were quite as high as those of the English, and ought to command equal right to compete for appointments on the staff of any hospital, no matter in what part of the United Kingdom situated. He promised to get the Council of the Association to move in the matter without delay, especially as the Bristol Hospital was not alone in this exclusive action. The governors of these institutions should remember that they were bound to obtain for the sick poor the best advice possible, and they were not fulfilling their trust if they excluded from appointments men possessing the highest professional qualifications because their diplomas happened to be obtained from an Irish College. He could hardly agree with the charitable remark of Sir Wm. Stokes that the Bristol Board of Governors had no desire to cast a slur upon the two Irish Colleges referred to. The grievance was a real one, and one which he felt sure would be admitted by all Englishmen who were acquainted with the facts of the case.

The death of Dr. James Thompson, founder and honorary treasurer of the Association, was reported, and a vote of condolence with the family of the deceased was passed.

Brigade Surgeon W. Alexander, M.D., Q.U.I., was appointed to the office rendered vacant by Dr. Thompson's death.

The members of the Association and their guests, in all fifty-two, dined together the same evening. The chair was occupied by the President (Dr. Macnaughton Jones), and on his right sat the guest of the evening, Dr. N. S. Davis, of Chicago, President of the 1887 International Congress. Among the other guests present were several American physicians at present on a visit to England.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION.

THE annual meeting of this Association was held at Brighton last week, during the meeting of the British Medical Association. The chair was taken by Dr. Joseph Rogers.

In the course of the proceedings, Dr. NORMAN KERR proposed the following resolution: "That this meeting congratulates the President, Dr. Joseph Rogers, on his recovery from serious illness, thanks him warmly for his noble and unselfish efforts on behalf of Poor-law medical officers, and of the welfare of the poor, and trusts that he may be long spared to continue the work to which he has so generously devoted the best years of his life." He did not think it necessary to add much in support of this resolution, which, he was sure, Dr. Rogers would feel came quite spontaneously. He was convinced all their hearts must have gone out to him in the very serious illness through which he had passed, and they hoped, not only for their own sakes and for the general cause of medical reform, but also for the benefit of the suffering poor—and the poor ought to be, and he hoped always would be, their first consideration—that he would be long spared to adorn their profession, and to do good to his fellow-men.

Mr. SIMPSON seconded the motion, which was carried by acclamation.

The PRESIDENT said he was extremely obliged for the generous observations of Dr. Kerr. It had certainly been his privilege for the last twenty-five or twenty-six years to fight the battle of the question of administration and relief of the poor. He commenced that work because the condition of things in the old Strand Workhouse was something more horrible than it was possible to imagine. They had succeeded in abolishing that condition of things, and in substituting a more righteous system. He might mention, for it was desirable that they should know it, that in consequence of the Metropolitan Poor Act the salaries and emoluments of the Poor-law medical officers for the metropolis was increased by no less a sum than £18 a year; therefore the sum of £18 a year in addition was put into the pockets of the workhouse and district medical officers in the metropolis consequent upon that accidental gathering in November, 1865, which had led to the formation of the Workhouse and Reformatories Association, and subsequently of this Association, as the outcome of the agitation then commenced. They had thus done some good pecuniarily to the workhouse medical officers, and they incidentally succeeded in doing a good deal of good throughout the country, but not to the extent that they could have desired. He did not know whether he should be permitted to preside over another meeting of that Association. He certainly had been most seriously ill, but he had been spared, and as long as health lasted he would continue in his work.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5994 births and 3300 deaths were registered during the week ending August 14th. The annual death-rate in these towns, which had been 20·6 and 19·9 per 1000 in the preceding two weeks, further declined last week to 18·9. During the first six weeks of the current quarter the death-rate in these towns averaged 19·6 per 1000, and was 2·0 below the mean rate in the corresponding periods of the ten years 1876-85. The lowest rates in these towns last week were 12·5 in Derby, 13·9 in Hull, 14·4 in Bristol, and 14·8 in Brighton. The rates in the other towns ranged upwards to 23·7 in Salford, 24·1 in Blackburn, 24·1 in Birkenhead, and 26·9 in Cardiff. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had been 877 and 871 in the preceding two weeks, declined last week to 718; they included 531 from diarrhœa, 54 from measles, 44 from "fever" (principally enteric), 33 from whooping-cough, 30 from scarlet fever, 26 from diphtheria, and not one from small-pox. The lowest death-rates from these zymotic diseases were recorded last week in Newcastle-upon-Tyne, Hull, and Oldham; and the highest in Salford, Leicester, and Cardiff. The mortality from diarrhœa showed a general decline, though the rates from this disease showed an excess in Salford, Norwich, Cardiff, and Leicester. Measles caused the highest death-rates in Blackburn and Preston, and "fever" in Portsmouth and Cardiff. The 26 deaths from diphtheria in the twenty-eight towns included 15 in London, 3 in Liverpool, and 2 in Plymouth. Small-pox caused no death either in London and its outer ring or in any of the twenty-seven large provincial towns. The number of small-pox patients in the metropolitan hospitals situated in and around London, which had been 8 on each of the preceding two Saturdays, had declined to 5 at the end of last week; no new case was admitted to these hospitals during the week. The deaths referred to diseases of the respiratory organs in London, which had been 172 and 148 in the preceding two weeks, were last week 150, and 36 below the corrected average. The causes of 76, or 2·3 per cent., of the 3300 deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Brighton, Norwich, Nottingham, Hull, and in four other smaller towns. The largest proportions of uncertified deaths were registered in Oldham, Liverpool, and Derby.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·8, 19·5, and 18·8 per 1000 in the preceding three weeks, further declined to 17·4 in the week ending August 14th; this rate was 1·5 below the mean rate during the same week in the twenty-eight English towns. The rates in the Scotch towns last week ranged from 12·5 and 13·1 in Greenock and Perth, to 19·0 and 23·4 in Glasgow and Paisley. The 430 deaths in the eight towns showed a decline of 34 from the number in the previous week, and included 21 which were referred to whooping-cough, 18 to diarrhœa, 12 to scarlet fever, 5 to measles, 4 to diphtheria, 3 to "fever" (typhus, enteric, or simple), and not one to small-pox; in all, 63 deaths resulted from these principal zymotic diseases, against 67 and 77 in the preceding two weeks. These 63 deaths were equal to an annual rate of 2·6 per 1000, which was 1·5 below the mean rate from the same diseases in the twenty-eight English towns. The deaths referred to whooping-cough, which had been 18 and 23 in the preceding two weeks, were last week 21, of which 16 occurred in Glasgow and 4 in Aberdeen. The fatal cases of diarrhœa, which in the previous two weeks had been 34 and 28, further declined last week to 18, and included 11 in Glasgow and 3 in Paisley. The 12 deaths from scarlet fever showed a decline of 3 from the number in the preceding week, and included 7 in Glasgow and 3 in Edinburgh. Of the 5 fatal cases of measles, 2 occurred in Leith and 2 in Glasgow. The 4 deaths from diphtheria exceeded the numbers in recent weeks, and included 3 in Glasgow, where 2 of the 3 fatal cases of fever were also returned. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 66 and 60 in the preceding two weeks, rose again last week to 71, and exceeded by 22 the low number in the corresponding week of last year. The causes of 60, or nearly 14 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been 17·3 and 17·6 per 1000 in the preceding two weeks, further rose to 20·8 in the week ending Aug. 14th. During the first six weeks of the current quarter the death-rate in the city averaged 19·9 per 1000; the mean rate during the same period was 20·6 in London and 18·9 in Edinburgh. The 141 deaths in Dublin last week showed an increase of 22 upon the number in the previous week, and included 4 which were referred to diarrhœa, 2 to "fever," 1 to measles, 1 to scarlet fever, and not one either to small-pox, diph-

theria, or whooping-cough. These 8 deaths from the principal zymotic diseases showed a decline of 7 from the number in the preceding week, and were equal to an annual rate of 1·2 per 1000, the rates from the same diseases being 4·5 in London and 1·2 in Edinburgh. The 4 deaths referred to diarrhœal diseases showed a further increase upon recent weekly numbers. The 2 fatal cases of fever corresponded with the number in the previous week. The deaths from scarlet fever, which had risen from 1 to 7 in the previous three weeks, declined again to 1 last week. Seven inquest cases and 5 deaths from violence were registered; and 49, or more than one-third of the deaths, were recorded in public institutions. The deaths both of infants and of elderly persons considerably exceeded those recorded in the preceding week. The causes of 19, or more than 13 per cent., of the deaths registered during the week were not certified.

Correspondence.

"Audi alteram partem."

SMALL-POX AT WINDSOR.

To the Editor of THE LANCET.

SIR,—I must protest against the publication of such injurious misstatements as are contained in the report of your Windsor correspondent. It is quite untrue that small-pox has prevailed in the slums previously denounced by him. The quarters which he particularly condemned were Bier-lane and its courts, South-place, and Sydney-place, and in these districts altogether only one case has occurred. There was another in Love-lane, which street, however, he barely mentioned. From neither of these two patients did any spread of infection take place. Charles-street is not in any sense a continuation of South-place, for it is at right angles to it, and of different construction and circumstances. The sensational story of a man dying of small-pox at 4, Charles-place, on a heap of shavings in a back room without ventilation, and lying too long unburied, is a fiction altogether, for the case which no doubt suggested it was that of a man who died of apoplexy. He occupied a front room, which was quite well ventilated, and he was buried on the third day after death. After such a flagrant instance of your reporter's inaccuracy it is scarcely worth while to answer him further. The errand-boy at 31, South-place, who excited his pity as having lost his place through the unjust conduct of the sanitary authority, was himself the sufferer from small-pox. We have now a hospital camp for the isolation of patients, but before it was ready it was of course necessary to prevent persons from going in and out of infected cottages; but compensation was (your Commissioner will be surprised to hear) given to those who were thus thrown out of work. The precautions taken were in almost every instance perfectly successful in preventing the spread of infection, and had it not unfortunately happened that the existence of one or two cases was for a time concealed, the outbreak would probably have been early stamped out. As it is, it has been of slight severity; only one death has occurred within the urban district, and the epidemic, if so it must be called, appears to be at an end. In one thing I quite agree with your Commissioner. It is true that his former report was fruitless of good result, but, on the contrary, it did much harm, and the ill-feeling which it excited is the greatest obstacle to the success of any scheme for the improvement of Windsor.

I am, Sir, yours obediently,

EDWARD CASEY, M.D. Lond.,
Windsor, Aug. 17th, 1886. Medical Officer of Health.

*** In reply to the above letter, it is barely worth while discussing whether Charles-street is a continuation of South-place. The fact that the last house of the one thoroughfare almost touches the first house of the other thoroughfare is, we should imagine, sufficient; but, if necessary, we could publish a plan of the neighbourhood. Our Sanitary Commissioner is pleased to frankly recognise that he was incorrectly informed, and committed an error in stating that the man who remained some time unburied died of small-pox. Small-pox did occur at No. 4, Charles-place, but the man who died of small-pox lived at the corner of Charles-place and South-street, and the man who remained some time unburied died at No. 1, Charles-place. At the time of this last death there were nine cases of small-pox within a few yards of the unburied body, and close to a public-house and a hairdresser's shop. It is easy to question details and to show that some little confusion arose, that some particular case of small-pox occurred four yards to the right instead of four yards to the left of a given point. People inhabiting such districts reply to questions in an excited and somewhat incoherent manner; but the fact remains that Windsor possesses disgraceful slums, that small-pox has broken out in those slums and still continues, if not precisely in the district under Dr. Casey's care, yet quite close enough to the borough to be a menace to visitors and residents. The other great fact, that the Windsor authorities did not possess a proper fever hospital, is also demonstrated by the epidemic. We are extremely gratified to learn that compensation has been given to those on whom quarantine was imposed, which is much to the honour of the Windsor authorities. We cannot believe that our report on Windsor has excited any ill-will among those who are actuated solely by the desire to ensure the public good. There may be, of course, a few persons whose only thought is the fear of expense, but with these we are not in the least concerned.—ED. L.

HYDROPHOBIA AND ITS CURE.

To the Editor of THE LANCET.

SIR,—Last month a patient was admitted into hospital, having been bitten about half an hour previously by what he declared was a rattle-snake. On the web between the fore and middle finger of the right hand I found the characteristic punctures produced by the snake's fangs, and the back of the hand was much swollen and semi-fluctuant. The man was retching violently, with rapid, small pulse. I immediately made a free incision into the most prominent part of the swelling, and about half an ounce of black fluid blood spurted out. Hot applications were used and bleeding freely encouraged. The vomiting at once stopped, and in three days he was dismissed well. Immediately after this THE LANCET of April 24th came to hand with Surgeon-Major Pringle's paper on the Treatment of Hydrophobia by incising the part and encouraging bleeding by suction, the very same treatment as I had adopted in my case of snake-bite. This seems to me a most rational method of treatment of recent bites, whether from the rabid dog or the venomous reptile. The poison, I presume, in the great majority of cases takes some considerable time for its absorption into the general circulation. Such being the case, by freely extracting blood locally, which will be in a state of congestion, if not stasis, in the capillaries, it seems reasonable to presume that a large portion, if not all, of the poison will be thus eliminated. But, supposing the case is not seen at once, but after the lapse, say, of eight or ten hours, I think it would still be advisable to incise freely the bitten part, in the hope that there still remained in the region of the bite a greater or less quantity of unabsorbed venom. With local incision would it be unreasonable to adopt general bleeding, say, from the arm? By this means the actual amount of poison in the system would be lessened, and proportionately the chances of escape increased. Of course, the objection will at once arise, that if the poison be in the form of a living germ, until the last germ is removed the danger will still be latent. But surely the fewer germs we have to attack the more hope there will be for the third stage in the treatment—viz., the subcutaneous injection of the permanganate of potassium.

I claim no originality for suggesting the use of this remedy. It has been much vaunted in the case of snake-bites, and is extensively used by the large *fazendeiros* in this country. But a few weeks ago I observed in a native non-medical newspaper—the *Jornal do Commercio*, published in Rio—a statement by a medical man that he had received a

letter from a *fazendeiro* who had had two slaves bitten by a dog, which was afterwards proved to have been hydrophobic. The man (for what reason I know not) injected the permanganate solution at once in the region of the bite, and neither of the slaves, after a long interval of time, had shown any symptoms of the dreaded malady. The doctor was appealing in the newspaper for some hydrophobic dogs in order that he might experiment with the permanganate.

Now, whether the happy result in the case of the two slaves mentioned was *post hoc* or *propter hoc* is a point which can only be determined, like M. Pasteur's treatment, by experience. Like the rest of the world, I am waiting with anxiety the result of this eminent man's treatment. But if ultimately successful, is there any hope of simplifying the methods of procuring the vaccine and also the process of application? If not, I fear after a little time country practitioners and poor people will be little better off than they are now, as a trip to Paris is beyond the means of most people. The method of treatment I have suggested has this advantage, it is within the reach of all, and certainly it appears more reasonable than merely passing a piece of nitrate of silver over as much of the lacerated flesh as can be conveniently got at.

To summarise: 1. If the bite is seen at once, stop as far as possible circulation through the part, as is recommended in the text-books; freely incise the part and encourage bleeding, as recommended by Surgeon-Major Pringle; treat the wounds on antiseptic principles, rendering them as far as possible aseptic; inject the permanganate of potassium subcutaneously. 2. If some hours have elapsed, in addition to the above treatment I would suggest general bleeding to a moderate degree, repeated at intervals and followed closely by the free administration of the permanganate.

I am, Sir, yours obediently,

W. LONDON STRAIN, M.B. Glas.,
Late Res. Asst. Glas. West. Infirmary.

Morro Vello Hospital, Brazil, June 18th, 1886.

To the Editor of THE LANCET.

SIR,—The imitative faculty—the link Simian—is strong in man. As soon as Virchow promulgated a doctrine of cells, cells were found everywhere. Now that the cellular pathology has for a time been superseded, microbes are found everywhere and in every disease. The microbic theory of hydrophobia is the natural outcome of imitation. We have recently had several announcements of the discovery of special microbes of hydrophobia, found in brain or cord. Strange to say, in the place or in the secretion where we would expect a microbe to be found, no result has been attained.

A rabid dog runs along the street and bites some one. He implants in the wound *something*, the saliva presumably being the medium. Now here we have the first stage in the problem. Has the dog simply exploded a nerve cell in the brain, and transmitted by nervous force a microbe from the brain, into the wound, or are the dog's teeth charged with microbic germs? A *reductio ad absurdum!* Rather, does not the bacteria lie in the saliva, just as in snake poisoning? And should we not look to this saliva and here carry out researches and ascertain—1. The exact nature of the saliva in the rabid dog, chemical and microscopical. 2. The exact changes in a wound caused by a rabid dog from the day the bite was first inflicted until the day of death, if such a result follows. 3. The infective nature of the wound must be also tested, &c. 4. When death takes place the total changes in all the tissues must be noted. The salivary glands, the brain, cord, &c., are all worth attention and control. Experiments should be made with all parts of the body. I could multiply the number of experiments required. It is manifestly unscientific to begin with the last part affected. The brain substance, the medulla, are implicated we know in the final stages, but as the rabid dog does not implant when he bites any part of his brain substance the initial lesion is what concerns us more particularly.

Against a microbic theory of hydrophobia many facts militate:—(1) The period of incubation; (2) the symptoms; (3) the local action in the wound; (4) the dosage; and (5) the general history of the disease. It does not affect this argument that a kind of pseudo-hydrophobia can be produced by injecting direct into the brain of a dog a cultivated fluid called rabic. Almost any kind of material, injected into the medulla of the rabbit, will produce such symptoms, and the animals will die with symptoms like those of the rabbits killed in the Paris laboratory. Carried on consecutively from rabbit to rabbit in the same way a cultivating fluid can be made. If we inject into the skin of a man some of this fluid, we do perhaps as little harm as Pasteur has done to his patients, but this part of my thesis has not yet been done. In some of the recent researches on rabies, I find a lack of originality. The microbes have rather cobwebbed the field. Those who are experimenting will, I trust, shine out into a field of their own, and leave off imitating.

I am, Sir, yours very truly,

Halifax, August 2nd, 1886. TH. M. DOLAN, M.D.

CASEY *v.* IMLACH.

To the Editor of THE LANCET.

SIR,—Your views concerning intra-peritoneal hæmatocele, however consistent they may be with the teachings of old and respected text-books, are wholly irreconcilable with the facts of modern abdominal surgery. I have now operated on twenty-five cases of intra-peritoneal hæmatocele, with one death; and I have seen about twenty-five post-mortem examinations of this condition. In every one of these cases the cause of the hæmatocele was a ruptured tubal pregnancy. Of all the cases that were left alone there was not a single recovery, and of all the cases operated on there was one death. You say that intra-peritoneal hæmatocele is a condition frequently met with, and that extra-uterine pregnancy is comparatively rare; but you must admit that my tabulated and published experience is absolutely the reverse, and I believe all experience, without operation or post-mortem examination, in this matter to be mere guesswork.

The symptoms given by the plaintiff in the witness-box, together with the description of the operation by those who saw it done, led me to believe that this hæmatocele was an old ruptured tubal pregnancy with recurrent hæmorrhage, and with this view I had to regard it as unique. I certainly have seen none like it.

I am greatly surprised to find in the classic columns of THE LANCET a continuation of that extraordinary confusion of terms between "spaying" an animal and "removal of the human uterine appendages." Animals are spayed before puberty to prevent its access, and the consequent development of a sexual appetite and powers, and the powers of procreation. The ultimate object of the process of spaying is an improvement in our food supply or in our domestic service by animals.

Removal of the human uterine appendages is performed after puberty—generally long after puberty. It has no influence, so far as I know, in destroying the sexual powers; indeed, it constantly restores them after disease has destroyed them. It does not usually destroy the procreative power, for that (in the great majority of instances) has been already destroyed by the disease for which the operation has to be performed. Finally, the operation has no other purpose than the saving of life and the relief of suffering. The operation of spaying an animal and the removal of the human uterine appendages have therefore no conceivable resemblance. Consequently, to talk of "spaying women" is to display great ignorance or to indulge in wilful misrepresentation for purposes of giving offence.

Concerning the frequency of the operation, that will always be relative, like everything else. The man who has a reputation for seeing patients safely through pneumonia will surely have a large number of cases of that disease; so the man who can cure the agonies of pyo-salpinx, or arrest the bleeding of a myoma with a low mortality, will surely get many cases sent to him for removal of the uterine appendages.

It will be left to those who cannot recognise the cases when they see them, and who can operate only with a murderous mortality, to talk nonsense about the "wholesale spaying of women." Whatever authorities have condemned it are found to be those like the minority of one at the recent meeting of the Obstetrical Section at Brighton, who confessed that he knew nothing of the subject, and was now too old to learn from those who did. At the Brighton meeting we had an authoritative and final discussion of the subject, and a verdict which will encourage the progress of abdominal surgery.

That the human uterine appendages have been removed

n cases where they ought not to have been is very likely, just as chloral was used when it ought not to have been, and just as every new advance is misused by indiscriminate and incompetent experimenters. In America, and perhaps here to a less extent, this has no doubt been the case, because too many operators are rushing into the field; but in London the fault is in the other direction. There are hundreds, if not thousands, of women who ought to be, and who could be, cured by removal of their appendages, but the high mortality of the operation in the metropolis, so far as we know it, hinders progress.

I am, Sir, yours faithfully,

Birmingham, Aug. 16th, 1886. LAWSON TAIT.

P.S.—I have not referred in this letter in detail to errors in the report from which you quote, and which very materially misrepresents what I did say, because such details are hardly pertinent to the broader questions now discussed.

DISCUSSION ON SUPRA-PUBIC LITHOTOMY AT THE BRIGHTON MEETING OF THE BRITISH MEDICAL ASSOCIATION.

To the Editor of THE LANCET.

SIR,—I very much regret I was unable to take part in the discussion upon supra-pubic lithotomy which took place last week in the Section of Surgery during the meeting of the British Medical Association at Brighton. Business of an important character detained me in another section, consequently I could not complete my engagement to speak. The operation of supra-pubic lithotomy, as now practised, is not the operation which Cheselden performed. The manner of its performance is different, and so is the preliminary and after-treatment; and I cannot help thinking that, if Cheselden could only have known our present method, he would never have forsaken the high operation. I feel convinced that in the future supra-pubic lithotomy will become a strong competitor of lithotrity. I take it that the significance of the revival of this operation lies in the fact that lithotritists have learned that there is a limit to the successful performance of lithrotity. We thus see that surgeons are again directing their attention to lithotomy as the better means, under certain circumstances, for the removal of vesical calculi; and remembering the mortality which followed lateral lithotomy for large stones, they are again invoking the aid of the operation we are discussing.

Speaking generally, my own opinion is that for stone in the bladder of male infants and boys perineal lithotomy is the best; for male adults with stone of a moderate size and with uncomplicated bladder conditions lithotrity is preferable; but for large or very large-sized calculi supra-pubic lithotomy will prove to be safer for the patient as well as easier for the operator. I was much surprised to read that Mr. Jessop, excellent surgeon as he is, should speak of lateral lithotomy in a small child as a difficult operation. I have operated upon numerous children, and I have never found any difficulty. Several times I have operated upon two children, one after another, and upon two occasions three children, on an operating day, and no mishap has ever been encountered, the operation generally being completed in thirty-five seconds. Mr. Cadge, in his recent lectures at the Royal College of Surgeons, speaks of the possible difficulty of getting the forefinger into the bladder of a small child, and advises that a pair of dressing forceps should be used instead. With the utmost respect for Mr. Cadge's opinion, I do not consider his recommendation a good one. The blades of a pair of dressing forceps, if the stone is not caught immediately, being opened and closed within the bladder, seem to me very likely to inflict considerable injury upon the mucous membrane. A better procedure would be, if the difficulty above referred to were encountered, at once to desist from all efforts to enter the bladder with the finger and to run a director along the groove of the staff into the bladder, and after the staff has been withdrawn upon the director, the forefinger or fine lithotomy forceps can easily be conducted into the vesical organ. I have long had in my possession an instrument intended to be used in the manner I have described; it is a director made of steel, measuring in length six inches, the handle of which is broad and flat, and bent to an angle midway between the straight position and a right angle, and two inches and a quarter long.

Mr. Jacobson says "he should very much like to know something of the personal history of those who had been cut for stone while young. What was the real fact as regards the emasculation which was asserted to follow in a proportion of the cases?" As a surgeon who has operated by lateral lithotomy upon nearly one hundred male children, some of these not more than twelve months old, I can only say I know of no instance; no case of the kind has ever been reported to me; and as many of my patients were sent to my care by medical men, I cannot but think that if any case of sexual incompetency had been observed it would have come to my notice.

I remain, Sir, yours faithfully,

Wolverhampton, Aug. 17th, 1886. VINCENT JACKSON.

THE HOSPITALS WEEK.

To the Editor of THE LANCET.

SIR,—It cannot but be gratifying for you to know that, apart from the benefit which the hospitals have received from the increased contributions on Hospital Sunday, as a result of the establishment of the Hospitals Week, with which the Special Supplements will ever be associated and remembered with gratitude, the appeal which the authorities of this hospital have made during the past two months has produced a monetary return greater than that of any similar appeal to the public on behalf of any of the London hospitals with the financial management and secretariat of which I have been personally associated during the last eight years.

I am induced to trouble you with this communication because I was present at the meeting of the representatives of the London hospitals which the Lord Mayor convened at the Mansion House, when the committee of the Hospital Sunday Fund decided to institute the Hospitals Week. At this meeting the representatives of St. George's and University College Hospitals, with others, strongly opposed this new departure on the part of the Hospital Sunday Council, on the ground that it would interfere with the proper work of individual hospitals and tend to lessen the amount of direct pecuniary support which they already receive from the general public. Mr. Burdett vigorously combated this view, and maintained that the greatest benefit to individual hospitals would prove to be the result. It is indeed gratifying to know, by actual experience, that not only were those objections based upon unsound premisses, but that the exact opposite to the contention of the objectors has resulted to an important hospital like St. Mary's.

Thanking you on behalf of my governors for what you have done, and with gratitude for the increased interest that has this year been awakened for the London hospitals by independent efforts on the part of both clergy and laity,

I am, Sir, your obedient servant,

PIETRO MICHELLI, Secretary.

St. Mary's Hospital, Aug. 12th, 1886.

LIVERPOOL.

(From our own Correspondent.)

THE GREEK GIPSIES.

THE Greek gipsies alluded to in a previous letter still continue at the Zoological Gardens, Walton, and constitute a danger against which it may be well to warn other local authorities. It is said that they were brought over by some public entertainer and then abandoned. The managers of all the American steamers decline to receive them, partly on account of their filthy state and refusal to conform to sanitary requirements, and partly from a belief that the authorities in America will refuse to allow them to land in that country. It is feared that there will be some trouble in getting rid of them.

ACCIDENTAL DEATH OR MANSLAUGHTER?

An inquest was held by the borough coroner, on the 18th instant, which adds one more to the melancholy list of fatalities from firearms. The deceased, a youth of eighteen, was shot by his brother, aged fourteen, and died the same

evening in the Royal Infirmary. The evidence was somewhat conflicting, the owner of the gun declaring on oath that he left it unloaded; the boy, whose handling of it caused his brother's death, declaring with equal emphasis that he never loaded it. It is, however, much more probable that the former was mistaken, and left it loaded. The boys had no business in the room where the guns were, but the history of this and similar fatalities shows that firearms ought to be kept under lock and key, or at least out of the reach of young people.

DEATHS FROM DROWNING.

Within the last month there have been many cases of death from drowning in the river Mersey, and in the Leeds and Liverpool Canal. In most of them there was an absence of any evidence of foul play or self-murder. The circumstances pointed rather to accident, combined with total inability to swim sufficiently to keep afloat for a few minutes. Liverpool abounds with swimming baths, where youths may bathe for a very small charge, and also learn swimming on terms within reach of all, except the very poorest. A more general knowledge of the art of swimming would save many valuable lives, and it is greatly to be desired that School Boards and other public school authorities should take the matter up. A few prizes for boys under ten, who can swim round a public bath, would be a most popular as well as laudable movement,

A HEALTHY WATERING-PLACE.

Llandudno presents an admirable illustration of how a place may rise when promoted with due regard to sanitation and other public requirements. Thirty years ago it was a small village giving but faint prospects of ever attaining to its present proportions. It is now one of the most popular seaside resorts in the kingdom, combining all the advantages of easy access by rail and boat, excellent sea-bathing, ample accommodation, and, what is most important of all in a medical aspect, the low death-rate of 14·1 per 1000. Dr. James Nicol, formerly medical officer of health, who has paid great attention to the climate and other advantages of the locality, declares that the range of temperature is 1° less than the average of the united seaside places, and 3·5° less than the average of inland places. He also shows that there is an almost entire absence of smoke or fog, that the temperature is by the sea raised in winter and lowered in summer, and that the rainfall is some inches below the average. But—and this is most important of all—the system of sewerage, which cost £36,000 ten years ago, is not to be surpassed anywhere, the water-supply being abundant, exceptionally soft, and perfectly free from organic impurity. There is an excellent swimming bath, renewed with every tide, and altogether Llandudno possesses great attractions to the inhabitants of this city, who are frequent visitors to it.

Liverpool, Aug. 18th.

MANCHESTER.

(From our own Correspondent.)

VICTORIA UNIVERSITY.

AT the recent medical examinations of the Victoria University the numbers showed a steady increase. The total number of successful candidates in the Pass, the Intermediate, and the Preliminary Scientific (Faculty of Medicine) was thirty-seven, of which twenty-three were students of Owens College and fourteen from University College, Liverpool, the only two colleges at present affiliated to the University. The new Hulme Hall of residence in connexion with Owens College will, in all probability, be ready for the reception of students in October, and the Rev. E. L. Hicks, M.A., rector of Fenny Compton, has been appointed the Principal. He comes with very high credentials both as a scholar and a teacher.

SIMPSON MEMORIAL COLLEGE.

On Saturday last Professor Ward laid the foundation stone of this College, at Moston, one of our northern suburbs, which bids fair to become in the future an important medical institution. The late Mrs. Fay, *née* Simpson, bequeathed more than £20,000 for the purpose of founding that establishment in her native township. Professor Ward enlarged upon the relation which the university was destined to hold in regard to all these higher educational bodies, and also touched upon the same subject as Dr. Moore at Brighton—namely, the higher education of women, provision for which is one of the main features of the Simpson Memorial scheme.

SIR H. ROSCOE.

An influential deputation waited upon a special committee of the Council of Owens College recently in reference to the resignation by Sir Henry Roscoe of the chair of chemistry in the College, urging that if possible his connexion should not be entirely severed, but that some arrangement should be made whereby his services and long experience in all that relates to the chemical department might be available when required, and his advice and direction not entirely lost to this important branch of study. At the recent festival of the founding of the University of Heidelberg, the honorary degree of doctor of medicine was conferred upon Sir Henry.

THE MAYORALTY.

It was stated in these columns that Mr. Alderman Schofield had been selected as mayor for the coming year. This gentleman, who has so long presided over the health department of the corporation, has, however, declined the honour, and Mr. Alderman Curtis will be elected, this being the third time he has filled the office. It bids fair to be an important year, for the proposed exhibition is now a matter of certainty, more than £100,000 having been subscribed to a guarantee fund. The site chosen is the same as that on which was held the Art Treasures Exhibition some thirty years ago.

HOLIDAYS AND PLAYGROUNDS FOR TOWN CHILDREN.

The children's holiday fund has not this year met with the support that it deserves; only some £500 has been subscribed, with which 590 children have been sent into the country. It was hoped that at least £1000 would have been at the disposal of the committee, who have had to refuse numerous applications from lack of funds. Under another organisation a camp has been formed at Llandudno, where from twenty to thirty boys are accommodated, taken from the poorest and lowest parts of the towns, and who are literally gutter children. It is hoped that 300 of these may be sent to the seaside for a short time during the season. The Local Board of Stretford has, with commendable public spirit, been lately taking steps for the acquisition of open spaces for playgrounds in the more densely populated part of their township—an example which might well be followed by other local boards round the city, before the land has reached such value as almost to make it prohibitive for this purpose.

THE COLLIERY EXPLOSION.

Another disastrous colliery explosion occurred at Leigh on Friday last, whereby nearly forty lives were lost. A peculiarity of the present catastrophe is the fact that one of the survivors appears to have seen the actual ignition of the fire-damp from which the explosion arose, and this took place in a "safety" lamp carried by one of the workers. None of our safety lamps are really safe in a dangerous atmosphere; and a miner's safety lamp, in the true sense, is still a thing to be produced by the scientist of the future.

Manchester, Aug. 18th.

NORTHERN COUNTIES NOTES.

(From our own Correspondent.)

SUNDERLAND INFIRMARY.

AT the annual meeting of the Sunderland Infirmary, held this week, the report spoke favourably of the general working of the institution during the past year, and added that the income had been well maintained, and, notwithstanding the long-continued depression in trade, which had been hanging over the town for the past two years, the workmen's subscriptions had increased. Amongst the subscriptions to the new wing, as a memorial of the late Mr. James Hartley, were promises of £500 from Mr. Laing, and £100 from the new Lord-Lieutenant of Ireland.

YORK EYE INSTITUTION.

Dr. Tempest Anderson, in the annual report of the York Eye Institution, says that the number of patients has been 761, which compares not unfavourably with former years.

The number of operations was 51, which is not up to the average. This arose in most part from the state of the cottages, which were damp and out of repair, and on this account were not opened during the year. Several cases of cataract were now waiting for operation. The financial state of the charity was said to be satisfactory.

DEATHS FROM SULPHURETTED HYDROGEN.

A very sad series of fatalities took place last Monday night at the Newcastle chemical works, near Gateshead. In the first place a little boy, nine years old, fell into a ventilating shaft, about twenty feet deep; then a workman who made an attempt at rescue was overcome by the gas, which is that proceeding from chemical refuse, sulphuretted hydrogen, and very deadly. A second man in attempting to rescue both was likewise overcome; he was got out alive, but died of pulmonary congestion the next night, so that in all, three lives have been lost.

SUNDERLAND AND NORTH DURHAM EYE INFIRMARY.

The half-yearly report of this institution states that 570 new out-patients have been admitted and 32 in-patients; 4238 attendances have been made and 80 operations performed.

TYNE PORT SANITARY AUTHORITY.

At a late meeting of the Tyne Port Sanitary Authority, it was stated that during June and July the following inspections were made:—British steamers, 1121; British sailing vessels, 358; foreign steamers, 443; foreign sailing vessels, 259; extra visits, 345—total number of visits 2526, including 96 fishing vessels. Sanitary defects were found in 53 British steamers, 18 foreign steamers, and 19 foreign sailing vessels, and orders given to remedy these defects have been complied with. Vessels from the Mediterranean were still watched on account of cholera.

DEATH FROM LEAD-POISONING.

An inquest has been held here in the case of a female worker at one of our large lead works, who recently died from the effects of lead-poisoning. Sir William Chator, inspector of factories, informed the coroner that he was well acquainted with the factory, and that it was provided with all means for preventing lead-poisoning.

Newcastle-on-Tyne, August 14th.

PARIS.

(From our own Correspondent.)

M. HERMANN FOL ON RABIES.

A LITTLE more than a year ago, M. Hermann Fol, Director of the Laboratory of Villefranche, published the results of his researches on the nature and treatment of rabies, and it will be remembered that on that occasion he believed that he had succeeded in demonstrating the existence of a microbe which he was able to cultivate, and with which he inoculated animals with success. The *Semaine Médicale* of this week contains a report of his experiments since that period which was read at the last meeting of the Société Helvétique of Natural Sciences, held at Geneva. M. Fol had operated on 169 animals and took the virus from four dogs which were killed at Geneva, where he was formerly Professor of the University. Nine animals, one of which was a dog, became positively rabid after having been inoculated with the cultures; but it must be observed that the success is small in proportion to the number operated on. M. Fol sets himself up as an apologist for M. Pasteur, who, he says, has been most unjustly maligned. Nevertheless, he considers that the possibility of the non-success of the anti-rabic inoculations has the effect of drawing attention to the question of the best treatment to be applied for bites of mad dogs. M. Fol has performed several experiments with substances which may be employed to replace the actual cautery. He says that cauterisation with the latter is inapplicable precisely in the gravest cases, such as those of deep bites in the head. Oxygenated water, which is an excellent antiseptic, does not, according to M. Fol, act in any way on the rabic virus. Solutions of corrosive sublimate, to be of any use in such cases, would have to be employed in a concentrated form, which would render them hardly practicable. He states that the essence of turpentine is a very efficacious remedy, even in very small quantity, and he thinks that in a state of concentration it might render real service in the treatment of persons bitten in the head.

REFORMS IN THE FRENCH ARMY.

General Boulanger, the present French Minister of War, is a radical in every sense of the word, and since his assumption of office has acquired a certain notoriety. He has effected many radical changes in the army, which none of his predecessors have dared to undertake; but whether the changes be tantamount to reforms remains to be seen. It will be remembered that General Campenon, the late Minister of War, consulted about a year ago the generals of division and other superior officers as to the desirability of the beard being worn in the army. I have learned, on good authority, that the majority of the officers consulted were against it. This was sufficient for General Boulanger to order the wearing of the beard, which decision does not appear to have given general satisfaction. The non-commissioned rank and file alone are ordered to wear the beard, but it is left optional with the commissioned officers. Why this difference is best known to the General, for what is considered good or necessary for one military man ought to be so for another. For the present the French soldiers with their beards look even more untidy than they did before. But whatever may be said against some of General Boulanger's innovations in the army, the French soldier will be thankful to him for others. For instance, the soldiers get only two meals per day, consisting of soup at 10 A.M., and "rata," or a sort of stew, at 5 P.M. The latter was always composed of boiled beef and vegetables. This was the daily ration, without any change, but General Boulanger has ordered that the composition of the stew be varied as much as possible with other meats and vegetables. In addition to these two meals a ration of black coffee, with a small glass of cognac, is served out to each soldier at six in the morning. These rations are, of course, intended for garrison service in time of peace, and would appear to be but poor fare, but the French soldier seems to thrive well on it. Aspirants for the liberal professions, particularly those for the medical profession, have reason to be thankful to General Boulanger for an innovation in their favour. You are aware that service in the French army is reduced to three years, and every Frenchman will have to become a soldier, there being no more volunteering or finding substitutes. This arrangement must necessarily interfere with the career of young men who have entered on business or commenced their studies. Those belonging to the liberal professions will be required to serve in the ranks for at least one year, and they will be allowed to prosecute their studies during the other two years, being of course liable to be called out at any moment that their services may be required. As for medical students, they may be employed as assistants in the military hospitals during their year of actual service.

A PARISIAN MYSTERY.

An example illustrating the necessity of post-mortem examination of the bodies of all persons who have died under suspicious circumstances or from any unknown cause has recently occurred in Paris. The dead body of a little girl was found in a street (Rue Vertbois) about a week ago, and as no person came forward to claim it, this of course gave rise to all sorts of suspicions as to the cause of death. This, however, was soon cleared up at the Morgue, where at the necropsy Dr. Descouts discovered in the trachea of the child an intestinal worm (the ascaris lumbricoides) fifteen centimetres long, to which he attributed the cause of death by asphyxia.

PASTEURISM IN RUSSIA.

The *Semaine Médicale* states that on the 1st of July last there died at the hospital of Odessa the first patient treated according to Pasteur's method by Dr. Gamalei, Director of the Bacteriological Institute of that city. The patient was a peasant, sixty-four years of age, who had been bitten by a mad wolf.

Professor Chatin, Director of the School of Pharmacy of Paris, has been placed on the retired list, but has been allowed to retain his rank honorarily.

Paris, August 18th.

MONTREAL.

(*From a Correspondent.*)

THE College of Physicians and Surgeons of the province of Quebec has just concluded one of its semi-annual meetings in Montreal. Several important changes have been made in the bye-laws of the College, one of which is the institution of a central examining board, to take the place of the assessors, whose duty was to attend the examinations at the different medical schools on behalf of the College of Physicians and Surgeons. This central examining board will meet annually, in Montreal or Quebec, as it may be directed by the College, and examinations will be conducted in the language of the candidate—that is, in French or English. In thus instituting a central examining board, Quebec is following the lead of Ontario, where the system has prevailed for some time, and has been found to work very well. Another change made is in the method of electing the governors of the College. Hitherto a few members who attended the meetings have secured a number of proxies, and have practically controlled the election. Now, each member will have a ballot paper sent him by the secretary, and will only be entitled to vote for a representative from his own district. The fees for the diploma of membership have also been raised.

A good deal of pressure is being brought to bear on the government to secure the appointment of a Port Physician for Montreal, the plea being that the quarantine station at Grosse Ile and the Port Physician at Quebec are inefficient. So far there does not seem much probability of one being appointed. There has been some laxity both at Grosse Ile and Quebec, but the damage is done before the ship reaches Montreal, as passengers and their effects are all landed at Quebec.

The honoured Principal of McGill University, Sir J. W. Dawson, is at present in England, having gone to attend the meeting of the British Association for the Advancement of Science. In the medical faculty, Dr. A. A. Browne, who succeeded Dr. MacCallum in the chair of Midwifery, has had to retire after only three years' service, on account of increasing practice and delicate health. His place is taken by Dr. J. C. Cameron, who has already proved himself an efficient teacher, having held a chair in Bishop's Medical College for some years.

Dr. Laberge, the medical health officer of the city, and the Board of Health have been working hard to rid the city of such nuisances as soap and candle factories, and have now turned their attention to the Government Hides Inspection Stores, which have been complained of. The sanitary condition of the city is better than it has been for some time, though there is still room for improvement in some respects.

Montreal, July 16th.

THE SERVICES.

WAR OFFICE.—Army Medical Staff: Brigade Surgeon Charles Edward Smith, M.D., is granted retired pay, with the honorary rank of Deputy Surgeon-General; Surgeon-Major Henry Theodore Chapman is granted retired pay, with the honorary rank of Brigade Surgeon.

INDIA OFFICE.—The Queen has approved of the retirement from the Service of the undermentioned officers of the Staff Corps and Indian Military Forces:—Deputy Surgeon-General Alfred James Dale and Surgeon-Major Alexander Gibb Grant, both of the Bengal Medical Establishment. The undermentioned officer has been permitted to resign the Service:—Surgeon Robert Jas. Taafe, of the Bengal Medical Establishment.

ADMIRALTY.—In accordance with the provisions of Her Majesty's Order in Council of April 1st, 1881, Fleet Surgeon William John Rankin, M.D., has been placed on the retired list of his rank.

The following appointment has been made:—Staff Surgeon Jas. B. Drew, to the *Boscawen*.

The undermentioned Volunteer medical officers have presented themselves for examination at the office of Surgeon-General J. Headley, C.B., the principal medical officer at the Aldershot station, in accordance with paragraphs 237 and 238 Volunteer Regulations:—Surgeon F. H. Appleby, 2nd Notts Rifle Volunteers; Acting Surgeon H. R. Heather Bigg, 22nd Middlesex Rifle Volunteers; and Acting Surgeon H. S. Moore, South Middlesex Rifle Volunteers.

ARTILLERY VOLUNTEERS.—1st Dorsetshire: John Richard Philpots, Gent., to be Acting Surgeon.—1st Lincolnshire: Surgeon and Honorary Surgeon-Major T. Small resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the corps on his retirement.

RIFLE VOLUNTEERS.—1st Volunteer Battalion, Princess Charlotte of Wales's (Royal Berkshire Regiment): Surgeon and Honorary Surgeon-Major O. C. Maurice resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the battalion on his retirement.

Obituary.

DR. HERMANN MAAS.

DR. HERMANN MAAS, professor of surgery at the University of Wurzburg, one of the foremost of German surgeons, whose death occurred on the morning of July 23rd, was born at Stargard, Pomerania, Prussia, in 1842. He received his early education in his native town, entering the University of Greifswald in 1861. In 1863 he began his clinical studies in Breslau. After passing his final examinations in 1866, he was appointed assistant to the surgical clinic at Breslau, then under the direction of Middeldorpf, who had inspired him with an ardent love for his future profession. In the same year he won his first laurels in the Austro-Prussian war, whither he accompanied his teacher. From the close of the war until 1873 he continued in his position as clinical assistant in Breslau. In 1877 he was called to Freiburg, to fill the chair of surgery, where he certainly contributed much to the rise which the medical faculty of that university experienced during the years of his professorship, from 1877 to 1883. In 1883 he was appointed the successor of von Bergmann at Wurzburg.

Professor Maas had been ailing for several years. He had, with much perseverance, brought the last winter term to a close, and after a short sojourn in San Remo, from which he derived little benefit, he was compelled to take to his bed at the beginning of the summer session, not to leave it again. Twenty years ago he suffered from acute articular rheumatism, in consequence of which symptoms of heart trouble developed during late years, to which he now finally succumbed.

Professor Maas was one of the most popular teachers of medicine at German high schools. His clinical demonstrations were eloquent and stirring, and their value was enhanced by concise and appropriate references to pathology. He has contributed much to medical literature, either personally or through his assistants and scholars, and it certainly was not his least merit that he was capable of exciting an interest in scientific work with those who enjoyed the benefit of his instruction. In leisure moments he was a genial companion and everywhere welcome for his eminent social qualities. In 1879 he paid a short visit to England, where, doubtless, many professional friends also mourn his decease.

Medical News.

UNIVERSITY OF LONDON.—The following is a list of the candidates who passed for Honours at the recent Intermediate Examination in Medicine:—

ANATOMY.

FIRST CLASS.

*Platt, John Edward, Owens College.
††Parkin, Alfred, Guy's Hospital.

THIRD CLASS.

‡ Firth, John Lacy, King's and University Colleges.
‡ Tate, Walter William Hunt, University College.
‡ White, Gilbert Benjamin Mewer, University College.

* Exhibition and Gold Medal. † Gold Medal.
‡ Obtained the number of marks qualifying for the Exhibition and Gold Medal.

MATERIA MEDICA AND PHARMACEUTICAL CHEMISTRY.

FIRST CLASS.

*Grange, Frank, Charing-cross Hospital.
¶Fenwick, William Solt.u, London Hospital.
Parkin, Alfred, Guy's Hospital.
‡ Locke, Frank Spiller, St. Bartholomew's Hospital.
‡ Pickard, Ransom, St. Bartholomew's Hospital.

SECOND CLASS.

Boyce, Rubert William, University College.
Mothersole, Robert Devereux, Guy's Hospital.
Bird, Robert, St. Bartholomew's Hospital.

THIRD CLASS.

Fernando, Hilarion Marcus, University College.
Roberts, Charles Hubert, St. Bartholomew's Hospital.
Killick, Charles Rowe, London Hospital.
Whitehead, Henry Edward, St. Bartholomew's Hospital.
Pierce, Bedford, St. Bartholomew's Hospital.
Firth, John Lacy, King's and University Colleges.

ORGANIC CHEMISTRY.

FIRST CLASS.

*Blackman, Frk. Frost, B.Sc., St. Bartholomew's Hospital.
‡Parkin, Alfred, Guy's Hospital.
Fernando, Hilarion Marcus, University College.

SECOND CLASS.

Roberts, Charles Hubert, St. Bartholomew's Hospital.
Locke, Frank Spiller, St. Bartholomew's Hospital.
Pierce, Bedford, St. Bartholomew's Hospital.

THIRD CLASS.

Bird, Robert, St. Bartholomew's Hospital.
Roberts, Edward Augustus, St. Thomas's Hospital.
Mothersole, Robert Devoreux, Guy's Hospital.

PHYSIOLOGY AND HISTOLOGY.

FIRST CLASS.

*Firth, John Lacy, King's and University Colleges.
†Fernando, Hilarion M., University College.

SECOND CLASS.

Parkinson, John Porter, University College.
Blackman, Frederick Frost, St. Bartholomew's Hospital.
Locke, Frank Spiller, St. Batholomew's Hospital.
Parkin, Alfred, Guy's Hospital.

THIRD CLASS.

White, Gilbert Benjamin Mower, University College.
Boyce, Rupert William, University College.
Pickard, Ransom, St. Bartholomew's Hospital.
‡ Brindley, Albert Edward, Owens College.
‡ Pierce, Bedford, St. Bartholomew's Hospital.
Bird, Robert, St. Bartholomew's Hospital.
Williams, Herbert, St. Bartholomew's Hospital
Ridley, Nicholas Charles, St. Mary's Hospital.
Berry, George Arthur, Owen's College.

* Exhibition and Gold Medal. † Gold Medal.
‡ Obtained the number of marks qualifying for the Exhibition and Gold Medal.
¶ Obtained the number of marks qualifying for a medal.
The bracket denotes equality of merit.

SOCIETY OF APOTHECARIES.—The following gentlemen passed their examination in the Science and Practice of Medicine, Surgery, and Midwifery, and received certificates to practise, on Thursday, the 12th inst.:—

Annesley, W. Oliver Tyndale, Church-terrace, Lee, Kent.
Barber, Robert David, the General Hospital, Nottingham.
Bronner, Hermann, Manor-row, Bradford.
Carden, Warburton Vandeleur, Lawn-road, Haverstock-hill.
Gee, Frederick William, University College Hospital.

DEATH OF ANOTHER OF M. PASTEUR'S PATIENTS.—News has arrived from Bordeaux of the death from rabies, at Leste, of a boy aged three years and a half. He was bitten by a rabid dog on June 14th last, and was at once taken to Paris by his parents, to be treated by M. Pasteur. He underwent ten inoculations. The first symptoms showed themselves on the 12th, and he died on the 15th inst.

UNSOUND MEAT.—On the 11th inst. a butcher named Martin was fined £20 and costs, or two months' imprisonment with hard labour, by the Brighton magistrates for having unsound meat in his possession. It was stated that the defendant got his living by selling unsound meat, and that he had been three times previously convicted.—At Spalding, on the 17th inst., a butcher was fined £7 10s. for exposing for sale meat which was unfit for human food. It was alleged that the beast in question was suffering from milk fever, and whilst engaged in slaughtering it three men had been attacked with blood-poisoning owing to its diseased state, one of them now lying at the hospital in a critical condition.

THE late Dr. Oreshehowski has bequeathed more than £20,000 to the Warsaw Charitable Society.

GEORGE ALEXANDER MOORHEAD, M.D., has been placed on the Commission of the Peace for the King's County.

DR. BIRMINGHAM, of Ballinrobe, has been presented with a set of surgical instruments prior to leaving Ireland for one of the Colonies.

HIS Excellency the Marquis of Londonderry has ordered the fruit and flowers of the Viceregal gardens to be distributed among the Dublin hospitals.

THE first congress of Russian alienists is to be held at Moscow at the end of the present year, simultaneously with the second general congress of Russian medical practitioners.

VACCINATION GRANTS.—Mr. Jas. Allen Bright, of Glastonbury (sixth time), Mr. Edward A. Piggott, of Clare, Suffolk, and Mr. Horace Lowther (second time), have received the Government grant for efficient vaccination in their respective districts.

UNIVERSITY OF GLASGOW.—In the list of gentlemen who obtained the M.D. on July 29th, and which was published in our issue of the 7th inst., the sign indicating "commended for thesis" should have been placed before the name "Auld Alex. Gunn, M.B., C.M."

THE Hackney Board of Guardians, after hearing a statement by Dr. Millar, their representative at the Metropolitan Asylums Board, on Thursday last passed a resolution condemning the proposal of the Asylums Board to expend £160,000 on the erection of a permanent hospital for the accommodation of convalescent small-pox patients at Darenth.

A HOME FOR INFANTS.—An addition to Mr. Barnardo's already extensive philanthropic work on behalf of orphan and destitute children, in the shape of a building to be known as "Babies' Castle," where homeless children of the tenderest age will be received, was inaugurated by the Duchess of Teck, at Hawkhurst, on the 9th inst. The institution will afford accommodation for 100 infants and their nurses, and has been erected at a cost of £3747. At a luncheon held after the ceremony subscriptions amounting to upwards of £250 were announced.

BOOKS ETC. RECEIVED.

CHATTO & WINDUS, Piccadilly, London.

How to Use our Eyes, and to Preserve them from Infancy to Old Age. By John Browning, F.R.A.S., F.R.M.S., &c. Fourth Edition. pp. 104, with Illustrations.

CHURCHILL, J. & A., New Burlington-street, London.

General Index to the Year-book of Pharmacy for the years 1864 to 1885 inclusive. pp. 246.

The Diseases of the Prostate, their Pathology and Treatment. By Sir Henry Thompson, F.R.C.S. Sixth Edition. pp. 237, Illustrated.

Spasm in Chronic Nerve Disease (Gulstonian Lectures). By Seymour J. Sharkey, M.A., M.B.Oxon., &c. pp. 99.

Short Sight, Long Sight, and Astigmatism: an Elementary Guide to the Refraction of the Eye. By G. F. Helm, M.A., M.D., &c. pp. 103, with Illustrations.

Guy's Hospital Reports. Edited by Fred. Taylor, M.D., and N. Davies-Colley, M.A., M.C. Vol. XLIII. pp. 514, with Illustrations.

FRIEND, D. B., Brighton.

Handy Guide to Brighton. pp. 192, Illustrated.

GRIFFIN, C., & Co., Exeter-street, Strand, London.

A Text-book of Human Physiology, including Histology and Microscopical Anatomy. By Dr. L. Landois. Translated from the Fifth German Edition, with Additions, by Wm. Stirling, M.D., Sc.D. In Two Vols. Second Edition. pp. 1270, with very numerous Illustrations.

JAGO, W., Brighton.

The Chemistry of Wheat, Flour and Bread, and Technology of Breadmaking. By William Jago, F.C.S., F.I.C. pp. 474, with Illustrations.

LEWIS, H. K., Gower-street, London.

Bright's Disease and Allied Affections of the Kidneys. By Charles W. Purdy, M.D. Q.U.I. pp. 294, with new and Original Illustrations.

Paralyses, Cerebral, Bulbar, and Spinal. A Manual of Diagnosis for Students and Practitioners. By H. Charlton Bastian, M.A., M.D., F.R.S. pp. 671, with numerous Illustrations.

Handbook of Diseases of the Ear. By Urban Pritchard, M.D.Ed., F.R.C.S.Eng. pp. 207, with Illustrations.

Massage as a Mode of Treatment. By William Murrell, M.D., F.R.C.P. pp. 78.

LONGMANS, GREEN, & Co., Paternoster-row, London.

The Rotifera, or Wheel-Animalcules. By C. T. Hudson, LL.D., and P. H. Gosse, F.R.S. Part V.

MACLACHLAN & STEWART, Edinburgh.

Lays of the Colleges: being a Collection of Songs and Verses by Members of the Æsculapian, Medico-Chirurgical, and other Professional Clubs in Edinburgh. pp. 268, with Illustrations.

MACMILLAN & Co., London and New York.

Elements of the Comparative Anatomy of Vertebrates. Adapted from the German of Prof. R. Wiedersheim, by Prof. W. Newton Parker. With Additions by the Author and Translator. pp. 345, with 270 Woodcuts.

NEW SYDENHAM SOCIETY, London.

Lexicon of Medicine and the Allied Sciences. By Henry Power, M.B., and Leonard W. Sedgwick, M.D. Part XII.: Gly—Her.

SAMPSON LOW, MARSTON, SEARLE, & RIVINGTON, London.

A System of Medicine by American Authors. Edited by William Pepper, M.D., LL.D.; assisted by Louis Starr, M.D. Vol. V.: Diseases of the Nervous System. pp. 1326.

The Techno-Chemical Receipt-book. Edited, chiefly from the German, with Additions, by William T. Brandt and William H. Wahl, Ph.D. pp. 496, with 78 Engravings.

SCIENTIFIC PUBLISHING COMPANY, Buckingham-street, Strand.

The Gas Engineer's Chemical Manual. By J. Alfred Wanklyn, F.C.S. pp. 76.

TRÜBNER & Co., Ludgate-hill, London.

L'Embaumement la Conservation des Sujets et les Préparations Anatomiques. Par le Dr. S. Laskowski. pp. 154.

WARNE & Co., London and New York.

Health, Beauty, and the Toilet. By Anna Kingsford, M.D.Paris. pp. 232.

L'Acide Sozolique; par E. Serrant (Berthier, Paris).—The Wear and Tear of London Life; by Robson Roose, M.D., F.C.S. (Chapman and Hall).—Contribution à l'Etude de la Tuberculose du Rein; par le Dr. R. D. Fardel (Masson, Paris).—A Retrospect of Clinical Teaching in Dublin; by J. W. Moore, M.D. &c.—The Function of the Recurrent Laryngeal Nerve; by F. Donaldson, jun., B.A., M.D.—Studies from the Biological Laboratories of the Owens College, Vol. I.; edited by Prof. Milnes Marshall.—Index Medicus, Vol. VIII., No. 6.—Hydrophobia and M. Pasteur; by Vincent Richards, F.R.C.S.E.—Monomanie sans Délire; by A. Wood Renton, M.A., LL.B. (Clark, Edinburgh).—The Peroneal Type of Progressive Muscular Atrophy; by H. H. Tooth, M.A., M.D. (Lewis).—Memorias leidas en la Sociedad Española de Laryngologia, Otologia y Rinologia; por los Drs. Suñe, Bassols, y Verdós.—Hard Chancre of the Eyelids and Conjunctiva; by D. De Beck, M.D., Cincinnati.—Materia Medica Labels adapted for Public and Private Collections (Lewis).—Vital Statistics of the City of Glasgow; by J. B. Russell, M.D. Part II.—Our Dress and Food in relation to Health; by D. E. Flinn, F.R.C.S. (Gill, Dublin), 1s.—Our Empire of Rivers; by R. T. Cooper, M.A., M.D.—Good Words, Sunday Magazine, for August; Leisure Hour, Sunday at Home, Boys' Own Paper, Girls' Own Paper, for August.—Is Enteric Fever a Cattle Disease? by Jas. F. Allen, M.D., Pietermaritzburg.—Transactions of the Obstetrical Society of London. Vol. XXVIII.—The Royal London Ophthalmic Hospital Reports. Vol. XI., Part 2.—The Revival of Trade by the Development of India; by William Birkmyre.—Index Medicus. Vol. VIII., No. 7.—Some Conditions of Neurasthenia; by Dennis de Berdt Hovell, F.R.C.S.E. (Churchill).—Papers upon Genito-Urinary Surgery; by A. T. Cabot, M.D. (Clapp, Boston).—St. Moritz in the Winter Months; by Henry St. Clair Feilden, M.A.—The Discipline and Dietary of the Southern Counties Asylum.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning at the latest.*

BRIGHT, JAMES ALBERT, M.R.C.S., F.S.A., has been appointed Honorary Consulting-Surgeon to the Sir George Bowles Hospital, Butleigh, near Glastonbury.

CAUDWELL, HENRY, L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Resident House-Surgeon to the Buckinghamshire General Infirmary, Aylesbury, vice John Rodley, M.R.C.S., resigned.

COOMBS, S. WELLESLEY, F.R.C.S.Ed., L.R.C.P.Ed., has been appointed Medical Officer for the First District of the Worcester Union.

CREASY, ROLF, M.R.C.S., L.R.C.P.Lond., has been appointed Medical Officer for the Second District of the Winslow Union.

DAVIS, HENRY, M.R.C.S., L.S.A., has been appointed Teacher and Administrator of Anæsthetics to St. Mary's Hospital.

FOWLER, J. KINGSTON, M.A., M.D.Cantab., F.R.C.P., has been appointed Physician to the Metropolitan Life Assurance Society, vice W. Moxon, M.D., deceased.

PRESTON, HENRY T., M.D., M.R.C.S., &c., has been appointed Surgeon to the Kidderminster Infirmary, vice J. Spofforth, resigned.

WOODWARD, WILLIAM, M.D.St.And., M.R.C.S., has been appointed Medical Officer for the Third District of the Worcester Union.

Births, Marriages, and Deaths.

BIRTHS.

CLARKE.—On the 18th inst., at 21, Lee-terrace, Blackheath, the wife of Ernest Clarke, M.D., B.S., of a daughter.

COLLINGRIDGE.—On the 16th inst., at Tressillian-road, St. John's, S.E., the wife of William Collingridge, M.A., M.D., of a son.

FAUNCE.—On the 18th ult., at Meean Meer, Punjaub, the wife of Charles Faunce, Surgeon, Army Medical Staff (prematurely), of a daughter.

FINEGAN.—On the 10th inst., at Navan, co. Meath, Ireland, the wife of L. P. J. Finegan, L.K.Q.C.P.I., L.R.C.S.I., of a daughter.

GOOD.—On the 12th inst., at Dorchester, Dorset, the wife of William Ernest Good, M.R.C.S., of a son.

HAYES.—On the 16th inst., at Oaten-hill, Canterbury, the wife of Surgeon Julian Philip Swindell Hayes, Army Medical Staff, of a son.

HUMPHREYS.—On the 14th inst., at Cromwell-road, South Kensington, the wife of J. H. Humphreys, M.D.Lond., of a son.

MILWARD.—On the 10th inst., at Deerhaddon, Brixton-hill, S.W., the wife of W. Clement Milward, M.B., of a son.

SILVERLOCK.—On the 3rd inst., at Sheffield, the wife of Richard Greenhill Silverlock, M.R.C.S., L.S.A., of a son.

THOMPSON.—On the 14th inst., at Teignmouth, South Devon, the wife of Surgeon C. M. Thompson, M.B., Madras Medical Service, of a son.

MARRIAGES.

CREASY—MARKBY.—On the 28th ult., at 2.30 P.M., at Holy Trinity Church, Paddington, by the Vicar, the Rev. D. Moore, assisted by the Rev. J. B. Whiting, uncle of the bride, Rolf Creasy, M.R.C.S., L.R.C.P.Lond., of Winslow, Bucks, son of the late Sir Edward Creasy, Chief Justice of Ceylon, to Mary, second daughter of Henry Markby, of 155, Westbourne-terrace, W., and 57, Coleman-street, E.C.

JONES—BURT.—On the 12th inst., at the Parish Church, Widdington, near Newport, Essex, Maurice Parry Jones, M.D., B.S.Lond., to Helen, daughter of the Rev. J. T. Burt, Rector of Widdington.

MACKENZIE—MACFIE.—On the 10th inst., at West Glen Caladh Cottage, John MacKenzie, M.D., J.P., of Tighnabruaich, Argyllshire, to Margaret Jane, eldest daughter of the Rev. Daniel Macfie, late of Portnahaven, Islay.

OTWAY—FILMORE.—On the 17th inst., at St. Mary's, Fulham, by the Rev. F. B. Grant, M.A., Henry Carrol Otway, L.R.C.P., &c., youngest son of the late C. W. Carrol Otway, F.R.C.S., to Lucy Hill, eldest daughter of Lewis Filmore, Esq., both of Kensington. No cards.

ROGERS—ARTHUR.—On the 12th inst., at St. Dunstan's, Stepney, George Arthur Rogers, M.R.C.S., to Ellen, youngest daughter of the late Robert Arthur, of Magherafelt, co. Derry.

ROSS—DANIELS.—On the 17th inst., at St. Peter's Church, Brighton, by the Rev. Julius Hannah, Douglas McKissock Ross, M.B., to Emma Frances, only daughter of Wm. Chas. Daniels.

SUTTON—CHRISTLIEB.—On the 10th inst., at the Protestant Church, Bonn, by Dr. Theodore Christlieb, Professor of Theology, and University Preacher, father of the bride, Henry Martyn Sutton, M.R.C.S., L.R.C.P., Medical Missionary, C.M.S., at Bagdad, seventh son of Alfred Sutton, of Reading, to Helene Amalie, eldest daughter of the above.

THRUPP—KETTLEWELL.—On the 17th inst., at St. Matthias, Earl's-court, James Godfrey Thrupp, M.R.C.S., to Emilie Sutherland Kettlewell, of South Kensington.

WOODS—PHILIPPS.—On the 12th inst., at St. Philip's Church, Kensington, by the Rev. John Graves, Chaplain of Kensington Palace, John Francis Woods, Medical Superintendent, of Hoxton House Asylum, to Nora, youngest daughter of James Rees Philipps, of 3, Berkeley-place, Cheltenham.

DEATHS.

CHEYNE.—On the 16th inst., at Fairholme, Croxted-road, West Dulwich, S.E. (after a very short illness), Robert Romley Cheyne, F.R.C.S., L.S.A., aged 75.

CONNELLAN.—On the 6th ult., at Mount Troödos, Cyprus, Surgeon-Major Edward Connellan, Army Medical Staff (of abscess of the lungs), aged 45.

MARRINER.—On the 29th ult., on board ss. *Kaikoura*, Hugh Marriner, M.B., C.M.Ed., M.R.C.S., of Palmerston, North New Zealand, aged 38.

POPPELWELL.—On the 10th inst., at Brook-street, Bath, Brigade-Surgeon G. B. Poppelwell, in the 58th year of his age.

THOMSON.—On the 19th inst., at Ashton, Torquay, Spencer Thomson, M.D., formerly of Grangewood Lodge, Leicestershire, aged 69.

N.B.—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 19th, 1886.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Aug. 13	29·59	S.W.	61	60	109	71	58	·07	Cloudy
,, 14	29·79	N.E.	61	59	95	68	58	...	Overcast
,, 15	30·08	W.	65	61	109	74	57	...	Cloudy
,, 16	29·92	W.	65	61	120	74	60	·13	Cloudy
,, 17	29·86	W.	60	57	108	68	55	...	Overcast
,, 18	30·21	N.E.	59	56	97	67	56	·01	Cloudy
,, 19	30·18	W.	60	59	...	66	57	·04	Raining

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

THE MEDICAL MISSION AT CAIRO.

AN appeal has been issued on behalf of Miss M. L. Whately's medical mission at Cairo, which is the only agency in that part of the country where gratuitous help and remedies are given to the poor. Although the strictest economy has been observed during the past year, the great increase in the number of patients has entailed necessarily greater expenditure, and funds are now urgently needed. After the annual fast of Ramadan, especially when, as now, observed in the hottest season, there is always a great increase of sickness. The weather is now exceptionally hot, and the eye cases are terribly numerous. We trust that the contributions in response to the appeal may be in proportion to the needs of, and the benefits conferred by, this mission.

W. H. O.—We do not prescribe.

"THE USE OF COCAINE IN CIRCUMCISION."

To the Editor of THE LANCET.

SIR,—I shall be obliged if you will allow space in your journal for a few remarks in reply to the letter of Dr. Snow, on the treatment of congenital phimosis, which appeared in your last issue. He suggests dilatation of the preputial orifice as a substitute for the operation of circumcision. There are a few cases to which this method is applicable, but in the great majority the prepuce is elongated in addition to its orifice being small. If the long prepuce be left the child will still (in spite of the dilatation) run the risk of the retention of secretion in the cervix and on the surface of the glans penis, unless it is completely retracted at short intervals and the parts carefully washed. The effect of this procedure on the *morale* of the boy is not beneficial. The risk attending the circumcision of a child is infinitesimal and, in my opinion, not to be compared with that which is run in leaving the long and useless prepuce. Further experience in the use of cocaine may enable us to avoid the slight danger involved in the administration of a general anæsthetic. My observation of large numbers of children leads me to believe that the mischief accruing from the peripheral irritation due to the neglect of circumcision is frequently under-estimated, and that many children are subjected to long courses of medicine whose health might be quickly and completely restored by this simple operation. In this opinion I am supported by a large number of my professional *confrères*. I should unhesitatingly answer Dr. Snow's question "Is circumcision (for congenital phimosis) a justifiable operation?" in the affirmative, and indeed should be disposed to go further, and say that, in a large number of boys, the non-performance of it seriously injures their prospects of healthy development. The decision must of course, in every case, be left to the parents, but if their consent be not obtained after fully explaining the circumstances to them, the responsibility is removed from the medical man to themselves.—Your obedient servant,

Inverness-terrace, Hyde-park, Aug. 16th, 1886. GEOFFREY HETT.

SUICIDE IN RUSSIA.

SOME instructive statistics are published by a St. Petersburg paper (the *Novosti*) with regard to the concurrent increase of suicide and insanity in Russia. The inmates of the asylums at St. Petersburg have doubled within the last ten years, and this is ascribed by the *Novosti* to the great spread of pessimistic and Nihilist doctrines. In the early part of the century the number of suicides was at the rate of only 17 per 1,000,000 inhabitants, while it is now nearly 30 per 1,000,000, and in St. Petersburg itself there are more suicides than in any other capital of Europe except Paris, there being 206, as against 170 in Berlin and 87 in London. The increase commenced about twenty-five years ago, and of late years it has been so rapid that while the population has risen by only 8 per cent., the increase in the proportion of suicides has been 76 per cent. The number of cases of insanity has not kept pace with the number of suicides, though they, too, have increased at the rate of 35 per cent.; and it is pointed out that, while meat is 20 per cent. and house rent 35 per cent. dearer than it was, the number of suicides has been out of all proportion greater, so that want cannot be the sole cause of this increase. The most distressing part of this return is that which tells how no fewer than 42 boys and 15 girls between eight and sixteen years of age committed or attempted to commit suicide in the last ten years, mostly because their parents maltreated them.

Mr. Lawson Tait (Birmingham).—The announcement appeared in our last issue, page 324.

Mr. Robert Rentoul should apply to the editor of the *Philanthropist*.

THE MEDICAL PROFESSION IN BARBADOES.

To the Editor of THE LANCET.

SIR,—In your reviews of books in your issue of the 24th ult. I noticed one on the Rev. J. H. Sutton Moxly's book on Barbadoes as a sanatorium. As a native of the place, and one in constant communication with the island, I should be very grateful if you would allow me to make a few remarks on the statement which Mr. Moxly has made with regard to our profession. He states that many of the members are "charlatans" with "bogus degrees," &c. Now, as this statement would be very misleading to readers ignorant of the island, I will supplement it by stating facts. In the island there are twenty-nine practitioners. Three of them have the degree of McGill College, Montreal, five have a M.D. of America, one the M.B. of Aberdeen, one the M.D. of Paris and M.B. of London; the remainder have the M.D. or M.B. of Edinburgh or the M.R.C.S. and L.R.C.P. of London. The American M.D.'s of the five gentlemen are genuine in so far as they had to pass examinations for them, and I never heard that they were "bogus" in the sense of being bought; but I cannot say if they all spent the minimum period of four years in their studies. Under the new Act there are commissioners who examine any new man's diplomas, and no licence to practise in the island can be obtained unless the commissioners are satisfied that such diplomas are genuine. If there is no provision in the Act that men with foreign diplomas should have spent four years at their studies, it is an oversight which ought to be remedied at once. I cannot suppose that Mr. Moxly refers to any of the gentlemen with British diplomas and degrees when he speaks of the "bogus degrees"; so that the five gentlemen with American degrees are evidently the ones to whom he refers. If the presence of these gentlemen with American M.D.'s makes the state of the profession in the island "eminently unsatisfactory," then the existence in London and England of so many herbalists professing to cure all tumours without cutting and to perform other professional miracles makes the state of the profession "eminently unsatisfactory" in England—a statement which would not receive any credence if anyone were rash enough to make it.

My reason for writing this letter is that many young men might think, from the paragraph you quote from Mr. Moxly's book, that Barbadoes is a sort of medical oasis where a properly qualified man could make a good living. The reverse, however, is the true state of things. The profession is fully represented there, and there is not much opening for young men, even if they enjoy the advantage of a local connexion.

I have not yet read Mr. Moxly's book; but the parts you quote with regard to the sewerage and water-supply for the poorer classes are perfectly true. Still, in spite of this, thanks to its being continually bathed in a sea breeze, the island is very healthy, as I can testify from my own personal experience.

In conclusion, I may state that I have known one or two people with incipient phthisis whose health has been materially improved by residence during the winter months in Barbadoes.

I have the honour to be, Sir, yours faithfully,

BLENMAN B. GRAYFOOT, M.R.C.S., L.R.C.P.

Corinne-road, N., August, 1886.

ASSOCIATION OF LICENTIATES OF SCOTTISH CORPORATIONS.

To the Editor of THE LANCET.

SIR,—Would you kindly allow me through your columns to ask any gentlemen desirous of forming an association as above to forward their names to me, with a view of holding a preliminary meeting.

I am, Sir, yours faithfully,

ARTHUR H. WOOD, L.R.C.P. & S.Edin.

49, Wells-street, Oxford-street, W., Aug. 17th, 1886.

"SHIP SURGEONS."

To the Editor of THE LANCET.

SIR,—I have read the letter of "M. A. P.," and also that of Mr. Harris, on the above subject. Although communications on this question have appeared from time to time in your columns, no improvement in the position of ship surgeons seems to result. I have sailed in different ships and in different lines, both as surgeon and as passenger, and I think there is much room for improvement. In the merchant service the surgeon holds no rank recognised by the Board of Trade; at least, in signing articles his name, I understand, comes after that of the steward—certainly after the names of all those who are known on board as officers. The position he holds, being given by the courtesy of the owners, he cannot claim as a right. His pay is miserably inadequate, considering his education and his responsibility at sea. It ranges from £50 to £100 a year; anything more that he might get from passengers is given as a "tip," in the same way and for the same purpose as the "tip" is given to the steward. It is true that he is generally a very young man, and the pay he gets is as good as he would get as an assistant on shore; but the difference in responsibility between the two positions is very great. His quarters are rarely, if ever, what they should be. If he sleeps in the saloon his room is the worst there, placed in the bend of the ship's run and almost over the propeller; if it is not in the saloon, it is beside the engines, and often next to the barber or butcher. In some of the new ships there is a small room opening from the surgeon's sleeping room, which is the dispensary; but in many ships he must keep his drugs, books, instruments, &c., in the sleeping room. If gifted with tact, and he can sing, play, and talk well, the surgeon will probably be a great favourite, and will find the life on board ship one of the pleasantest, if he likes the sea; if he is not so gifted, he will find his pleasure dependent entirely upon the goodwill of the captain, who is in many instances arbitrary and disagreeable.

It is strange that the medical officer's position should be so doubtful when his presence seems to be so necessary. The fact that a surgeon is carried is constantly held out as an inducement by many of the large lines, which have lately taken to advertise their ships in THE LANCET and other journals as a great means of restoring health. I consider that the doctor should rank next to the captain socially—in such matters, for instance, as his seat at table and the place of his name on the printed passenger list. If there is but one table, he should sit at the foot, or at the head when the captain is not present; if more tables than one, he should be at the head of the second. His bedroom should be one of the best, and he should have a separate place for a dispensary. His pay could remain as it is, but he should be at liberty to charge for professional advice, at least to the first- and second-class passengers, at the rate of, say, 5*s.* and 3*s.* 6*d.* each consultation. This would not cost the company anything, or the passengers any more than the present "tip" does. I think if this were done it would improve very much the social status of the medical officer in merchant ships. It would probably also serve the interests of the companies; for many good practitioners who are fond of sea life would remain in the service, and thus the companies could advertise with truth, and people would believe, that their ships carried experienced surgeons, and sea voyages, which I think are among the best health restorers, would be much more largely taken advantage of.

I am, Sir, yours truly,

July, 1886. J. H. O.

ABSENCE OF THE AMNIOTIC FLUID IN PREGNANCY.

To the Editor of THE LANCET.

SIR,—I would feel much obliged if any of your readers would give me their opinion and offer suggestions in the treatment of the following case.

A lady five feet in height, about thirty years of age, of a neuralgic, nervous temperament, with shallow pelvis, suffered from several miscarriages at three months and one at eight months. On my correcting a retroflexion from which she suffered, she again became pregnant, and continued to wear the instrument for six months. A good deal of uterine pain was complained of at different times, and there was an irregularity and want of roundness of the abdomen which was striking. The fœtal head and limbs could be made out by manipulation. When seven months pregnant she did not appear larger than if she was four months and a half or five months. She suffered somewhat from leucorrhœa occasionally, but never very badly. With great dietetic care and the adoption of the horizontal position on a sofa all went well until the end of the seventh month, when a slight attack of diarrhœa (nervous in its character) happened, and continued for some days. About a week after this uneasy sensations were felt, and soon miscarriage occurred. On expulsion of the fœtus (a footling presentation), I found that there was scarcely any amniotic fluid—in fact, I might almost say none, and that the body, which was thickly covered with sebaceous matter, was badly nourished, and had been dead for some time. From what I could learn, the first miscarriage (that at eight months) was exactly similar, the special feature being the absence of "waters." Is this abnormality in quantity of fluid the cause of these miscarriages? As a reason for the uterine pain, the irregular shape, and slight life-movements it is easily understood. There was no discharge of fluid, with the exception of the leucorrhœa above referred to, during the pregnancy. As an heir is anxiously longed for, what hope can be offered of the probability of a viable child being born, and can anything be done to remedy the fault of want of fluid?

I am, Sir, yours truly,

August, 1886. SOUTH AFRICA.

LABOUR FOLLOWED BY SUPPRESSION OF URINE.

To the Editor of THE LANCET.

SIR,—The case reported by Mr. Williams in your issue of the 7th inst., page 248, reminds me of a case which I attended nearly eighteen months ago. Unfortunately, I did not keep notes of the case, so can give only a brief summary of the symptoms. This, however, may be of assistance to Mr. Williams in his endeavour to elucidate the pathology of his case.

Mrs. H——, aged thirty-seven, the mother of several children, was delivered of a live child before my arrival. The labour was natural, but hasty. On my calling the next day I learned that the patient had passed no urine. I ordered the usual remedies. The next day I introduced a catheter; but as no urine came away I directed my attention to the kidneys, and ordered poultices over the loins, &c. I saw her again in the evening, and found she had not voided any urine. I passed a catheter, and found the bladder empty. The patient seemed quite comfortable, and had no symptoms, except that the lochia were very scanty. In the middle of the night her husband called me up, and said his wife was either dead or dying. When I arrived I found her comatose. I passed the catheter, which brought away about half a pint of clear urine; but she remained in this state of coma for two days. As she returned to consciousness the urine became very abundant, and at the same time phlegmasia dolens of both legs came on, and congestion at the back of both lungs. While under treatment for the phlegmasia dolens an attack of hemiplegia came on. The left side of the face and left arm and leg were affected, and there was well-marked aphasia. The paralysis of the face and leg disappeared in a few days, but the arm continued powerless for three weeks. The patient was able to be about the house in two months' time. When I saw her six months ago she seemed strong and well, except that the aphasia had not quite disappeared.

In the above case it would appear, from the paralysis and aphasia, that clots or emboli had been at work. Might it not be possible in Mr. Williams's case that a clot was the cause of the sudden death? I looked into several books to gain some knowledge of the pathology of such cases, but without effect. I shall therefore anxiously await the result of Mr. Williams's inquiries.

I am, Sir, your obedient servant,

Street, Somerset, Aug. 14th, 1886. J. LESLIE CALLAGHAN.

Mr. G. B. Leonards.—THE LANCET for Oct. 23rd, 1875, and three following numbers contain information on the subject which may be interesting to our correspondent. There is not to our knowledge a special treatise published on the subject.

Enquirens.—B should have intimated to A the fact that he was asked to see A's patient, and should have been careful to see the patient with A. A is entitled to remonstrate, and to ask for more care on B's part.

HOUSE-BOATS ON THE THAMES.

To the Editor of THE LANCET.

SIR,—It is quite time that something should be done to prevent the pollution of the river by means of the above; and as the evil could easily be remedied at little cost to the owners of house-boats, it appears almost incredible that the Thames Conservancy have not long ago enforced the steps to so desirable an end. House-boats in themselves are a happy and healthful feature on the river, and present a gay and attractive spectacle at regattas, and all that is needed to make them innocuous and inoffensive to the public is a system of dry-earth closets for the disposal of the sewage. If this were rigorously enforced, and the sanitary laws already in existence stringently applied, no objection need be urged against a manner of residence on the river which affords so agreeable a change to many during the summer months.

I am, Sir, yours faithfully,

Finsbury-square, Aug. 18th, 1886. J. BERESFORD RYLEY, M.D.

Senex.—Two to three miles is the customary radius in the suburbs, one mile to one mile and a half in London itself, and seven to ten miles in country districts.

M. Whalley.—We know nothing personally of the gentleman named, except that he holds the post mentioned.

EARLY MENSTRUATION.

To the Editor of THE LANCET.

SIR,—Perhaps the following case may be of sufficient interest to record in your journal.

A lady consulted me in reference to her daughter, just ten years of age, who had, she said, passed a little blood "from the back." She also said the right breast was a little enlarged. The child appeared perfectly healthy; so I proposed an examination, and found that she was in the midst of her first menstrual issue, a distinct oozing of blood being perceptible. I need hardly say the mother was not less astonished at the fact than I was. It lasted five days. It is curious that only one breast should have been enlarged, the other being just as in a girl of her age. Even in India this would be considered an extraordinarily early age to commence menstruating; but in England it is quite exceptional.

I am, Sir, yours truly,

Clapham-road, S.W., August, 1886. W. PIERCY FOX.

Medicus (Manchester).—The standard works on surgery are not silent on the subject.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Ground, Maidstone; Mr. Ryan, Gympie; Dr. Casey, Windsor; Mr. Bickerton, Liverpool; Dr. Martin, Blackburn; Mr. Hawkins-Ambler; Dr. E. B. Truman, Nottingham; Dr. Dreschfeld, Manchester; Dr. Beresford Ryley, London; Dr. Menzies, Venice; Mr. Leonards, Liverpool; Mr. M. B. Sparrow, Burton-on-Trent; Mr. Hyde, Buxton; Mr. Astley Bloxam, London; Dr. F. G. Lee, London; Mr. A. G. Francis, Cambridge; Mr. Rentoul, Liverpool; Dr. Quinlan, Dublin; Mr. Simeon Snell, Sheffield; Mr. Padley, Swansea; Dr. J. Stewart; Mr. Lawson Tait, Birmingham; Dr. Bell Pettigrew, St. Andrews; Mr. Michelli, London; Dr. Drysdale, London; Dr. G. Hett, London; Mr. Sisley, London; Mr. F. B. Jessett, London; Dr. Shore, London; Mr. E. M. Crookshank, Brighton; Mr. J. Startin, London; Mr. W. F. Menzies, Maidstone; Mr. P. G. Lewis, Folkestone; Messrs. Whitehead and Co., London; Mr. Hughes, Notts; Dr. Keser, London; Mr. Wylie, Belfast; Dr. Buchanan, Glasgow; Mr. Beresford, Hison; Mr. Park, Canonbie; Dr. Beattie; Miss Hitchcock, Braintree; Messrs. London, Torquay; Mr. Vigo, Oxford; Mrs. Duncan; Mr. Headley, Haverstock Hill; Mr. Fox, Dewsbury; Mr. Lloyd, Liverpool; Messrs. Benjamin and Son, London; Mr. Furneaux, Shanklyn; Messrs. Boulton and Paul, Norwich; Dr. Rayner, Malvern; Mr. Stanley, Manchester; Mr. Thomas, Carmarthen; Mr. Torrance, Norwich; Mr. Walker, Aberdeen; Mr. Jones, Cannock; Mr. Byerley, Portsea; Messrs. Kilner Bros., London; Dr. Williams, Liverpool; Dr. Buchan, Plymouth; Mr. Forrest, Bournemouth; Mr. Nicholl, Ditchling; Messrs. Beal and Sons, Brighton; Messrs. Burgess and Co., London; Messrs. Haller and Co., London; Messrs. Whitehead and Co., Manchester; Mr. White, London; V. C.; Advertisement; Sanitas; Mrs. P., Kensington; L. D., Clapham; Voyageur; Chirurgus, London; An M.D. of New York; Delta.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Hodson; Messrs. Squire and Co., London; Mr. Hughes, Risca; Mr. Fox, New Barnet; Dr. Swainson, Keswick; Mr. Jones, Ruthin; Dr. Gramshaw, Walton-on-the-Naze; Mr. Harris, Saltburn-by-the-Sea; Mr. Flint, Westgate-on-Sea; Mr. Ward, Baildon; Mr. Dixon, Pewsey; Mr. Rober, Newport; Mr. Clarke, Sheffield; Dr. Hall, Leigh; Mr. Reader, Lyme Regis; Mr. Gibson, Cowes; Mr. Warren, Ealing; Mr. Butler, Castle Dorrington; Mr. Clark, Edinburgh; Mr. Guest, Darlington; Mr. Jones, Rotherham; Mr. Chesebrough, Brampton; Dr. Raymond, Wymondham; Mr. Parrish, Worthing; Mr. Grace, Maidstone; Dr. McNaught, Newchurch; Messrs. Bell, Swansea; Mr. Marsh, Hindley; Mr. Ward, Stevenage; Mr. Tweddel, West Hartlepool; Dr. Armstrong, South Shields; Mr. Gibson, Bromley; Mr. Ward, London; Mr. Teague, Manchester; Mr. Bunting, Nottingham; Mr. McLintock, Church Stretton; Messrs. Debenham and Co., London; Messrs. Maythorn and Son, Biggleswade; Mr. Randell, Englemere; Messrs. Burgoyne and Co., London; Mr. Saunders, Romgrove; Messrs. Woollams and Co., London; Mr. Roberts, Kirkby-by-Stephen; Mr. Pickering, Wood Green; Mr. Holley, Brighton; Mr. Clark, Leo; Messrs. Cassell and Co., London; Mr. Rushworth, Bradford; Mr. Wall, Wigan; Mr. Fox, London; Mr. Hughes, Birmingham; Dr. Eberle, Thirsk; Mr. Morris, City-road; Mr. Mackay, St. Columb; Mr. Patchett, Great Harwood; Mr. Garraide, Sheffield; Mr. Morgan, Islington; M. W., Preston; Surgeon, Burton-on-Trent; H. O., Carmarthen; L. M. N.; Medicus, Wandsworth; Physician, Longtown; O. S. W., Darwen; Tunbridge Wells; Cheal, London; Don; Alpha, Aberdeen; Mignon; Medicus, Hinckley; Locum, Werneth; Medicus, Sutton; A. B.; Medicus, Birmingham; J. S., Streatham; S. D., Cheltenham; Veto; B. A., Leicester; R. W.

Evening News, Leeds Mercury, Llandudno Advertiser, Jewish Chronicle, Windsor Express, Windsor Gazette, Kent and Sussex Courier, Dumfries Standard, Keble's Gazette, &c., have been received.

Medical Diary for the ensuing Week.

Monday, August 23.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesdays, same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITALS.—Operations, 2 P.M., and each day in the week at the same hour.

Tuesday, August 24.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Mondays at 1.30 and Thursdays at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2.30 P.M.; Saturday, 2.30 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

Wednesday, August 25.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesdays and Thursdays, 1.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Skin Department, Tuesdays and Fridays, 9.30 A.M.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; and on Friday, 2 P.M.; and Saturday, 1 P.M.

Thursday, August 26.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Surgical Consultations, 1.30 P.M.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

NORTH-WEST LONDON HOSPITAL.—Operations, 2.30 P.M

Friday, August 27.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1.30 P.M.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, August 28.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

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